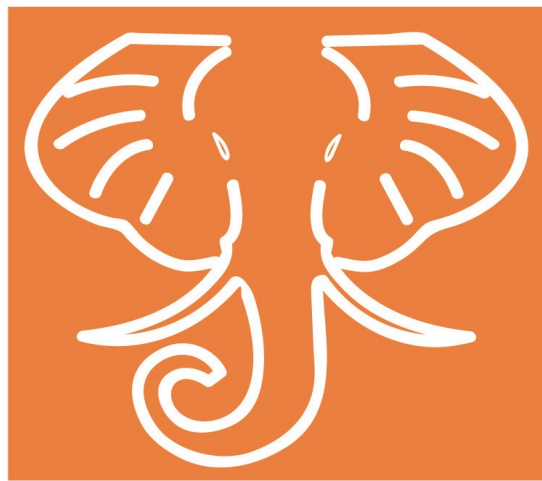


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NUMISMATIC NOTES AND MONOGRAPHS

No. 128

THE VENETIAN GOLD DUCAT AND ITS IMITATIONS

By HERBERT E. IVES

Edited and Annotated

By PHILIP GRIERSON



THE AMERICAN NUMISMATIC SOCIETY

BROADWAY AT 156TH STREET, NEW YORK

1954

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The Venetian Gold Ducat And Its Imitations

By HERBERT E. IVES

Edited and Annotated

By PHILIP GRIERSON



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FOREWORD

This is the third and unhappily the last of Dr. Ives' contributions to the literature of numismatics. His previous publications were a monograph on imitations of the English noble, published in 1941 as No. 93 in *Numismatic Notes and Monographs*, and an article contributed to *Museum Notes* in 1952 on the design of the Florentine florin as an aid to its dating. His main interest was that branch of comparative numismatics which involves the study of the spread and imitation of important commercial currencies, and his strength as a scholar lay in his talent for observing and analyzing the incidence of small details of design which could be used as evidence for classification and dating. It was only a short step from the florin to the ducat, and he had virtually completed the sketch for this monograph when he died suddenly on 13 November 1953.

In the previous summer, on the eve of his last visit to Europe, Dr. Ives asked me to read his rough draft and discuss it with him. Since he was one of the most modest of scholars, he always assumed that others were likely to know more about a subject than he did himself. The book seemed to me to fulfil very adequately the purposes he had in mind, and beyond urging that certain sections required expansion, I had not many suggestions to make.

Dr. Ives returned from Europe with some fresh material, but had scarcely begun the revision of the text and notes for the printer before he died. I was asked by The American Numismatic Society to complete the work, and was only too happy to perform this service to the memory of a distinguished collector and scholar. I first met Dr. Ives when he

was visiting England in 1951. We subsequently corresponded on problems of later medieval coinage, and he showed me every kindness when I was in New York for the first time in 1953.

The manuscript of the book, in the form in which it reached me, consisted of the text as I had originally seen it, accompanied by rather sketchy notes and partially mounted plates. Full indications were available as to how Dr. Ives intended to complete the latter.

The text as printed here is basically as Dr. Ives left it, but I have systematized the spelling of proper names, checked the dates and cross-references, and added sections on points which I had discussed with him and on which I knew he intended to work. I have not called attention to small changes I have made in his wording, whether for literary reasons or in correcting trivial errors of fact, but I have put all substantial additions of my own in brackets. This does not apply to the footnotes, which are almost entirely my work, since I had only rough jottings regarding his chief authorities and few references in detail. The general plan of the plates is that devised by Dr. Ives, but some have had to be slightly adjusted either to include additional material or to utilize more satisfactorily the space available.

The majority of the coins illustrated formed part of Dr. Ives' own splendid collection and are now in the possession of The American Numismatic Society. I am indebted to the keepers of the coins in the British Museum and the Ashmolean Museum for permission to publish several specimens in their respective collections, and to Sig. Tommaso Bertelè for sending me a photograph and description of a coin die in his possession and giving me permission to include it here.

NEW YORK, 17 AUGUST 1954.

PHILIP GRIERSON

INTRODUCTION

In the second half of the thirteenth century two important gold coins were introduced in Italy, the florin of Florence (1252) and the ducat or zecchino of Venice (1284). Of virtually the same size and value, and of high purity, these coins were issued, with little change in design, for a period of several centuries: in the case of the florin, up to 1533, after the institution of Alessandro de Medici as first Grand Duke of Tuscany; in the case of the ducat, up to the suppression of the Venetian Republic by the Treaty of Campo Formio in 1797 and even beyond, into the nineteenth century. Both had a wide circulation¹ and were extensively imitated, but the imitations followed a somewhat different course in the two cases.

The florins of Florence were copied almost exclusively in western Europe: in Germany, the Low Countries, France and Aragon, where over a hundred rulers, states, and cities issued florins bearing the lily for obverse, and St. John the Baptist as reverse, with the FLORENTIA of the original replaced by FRANCIA, FLAD, or other identifying place or ruler's name. These florin imitations flourished in the fourteenth century, but had practically ceased by 1400 except in Aragon, where they persisted well into the fifteenth century. The goldgulden, derived from the florin, lasted longer, but with the lily and St. John superseded by other types. The

¹ Cf. Josef Muller, "Venezianer Münzen im XIII. Jahrhunderte und ihr Einfluss auf das mitteleuropäische Münzwesen," *Numismatische Zeitschrift*, XV (1883), 222-37, and the article of Dieudonné cited below, p. 4, n. 10.

florin imitations have been very fully listed and described by Dannenberg,² Joseph,³ and others.

The imitations of the Venetian ducat, in contrast to those of the florin, were produced almost entirely in regions south and east of Venice:⁴ in the eastern Mediterranean, the Levant, and out as far as India. Unlike the florin imitations they were not a phenomenon of a few decades, but continued during the whole period of the ducat, that is, up until the nineteenth century. It is the purpose of this essay to give an account of the spread of these ducat imitations, which it has heretofore been possible to comprehend only by consulting widely scattered sources.

[It must be remembered that imitations of the ducat throw light on only one aspect of its influence. The weight and intrinsic quality of the coin were as important as its external appearance, and the manner in which it was taken as a model by rulers who in the fifteenth century were reforming or creating a gold coinage is most revealing. This was equally true of the Christian west and the Muslim east. Afonso V of Portugal, establishing in 1457 the new cruzado

² Hermann Dannenberg, "Die Goldgulden vom Florentiner Gepräge," *NZ*, XII (1880), 146-85.

³ Paul Joseph, *Historisch-kritische Beschreibung des Bretzenheimer Goldguldenfundes (vergraben um 1390): nebst einem Verzeichniss der bisher bekannten Goldgulden vom Florentiner Gepräge* (Mainz, 1883). This article first appeared in vol. III of the *Zeitschrift des Vereins zur Erforschung der rheinischen Geschichte und Altertümer zu Mainz*. The most convenient listing of florin imitations is that in Arthur Engel and Raymond Serrure, *Traité de numismatique du moyen âge*, III (Paris, 1905), 1437-40.

⁴ The relatively small circulation of the Venetian ducat in northern Europe is reflected in the composition of the Bretzenheim hoard. Of the 1005 coins it contained, 451 were Florentine florins, 549 were florin imitations or derivatives, and only 5 were Venetian ducats. In contrast to this, see the account of the board of Puerto de Santa Maria at Cadiz by F. Mateu y Llopis, "El ducado, unidad monetaria internacional oro durante el siglo XV, y su aparacion en la peninsula Iberica," *Anuario del Cuerpo Facultativo de Archiveros, Bibliotecarios y Arqueologicos*, II (1934), 1-34.

with the guinea gold which Portuguese exploration of the coast of west Africa was for the first time bringing to his kingdom, made this coin of the weight and fineness of the ducat,⁵ and Ferdinand and Isabella, in carrying out their great monetary reform by the Pragmatic of Medina del Campo of 13 June 1497, took the value of the ducat as that which their excelente should follow.⁶ In the early years of the century, when the Venetian ducat circulated in great quantities in Egypt under the name of *ifranty*, the Mamluk ruler An-Nāṣir Faraj (1399–1412) made his new gold coin, called after him the *nāsery*, identical in weight with the ducat,⁷ and so a few years later did Al-Ashraf (1422–38),⁸

⁵ A. C. Teixeira de Aragão, *Descrição geral e historica das moedas ... de Portugal*, I (Lisbon, 1874), 230. The mint specifications were a fineness of $23\frac{3}{4}$ carats and $64\frac{2}{3}$ pieces to the mark, so the weight was a fraction above that of the ducat.

⁶ Aloiss Heiss, *Descripción general de las monedas hispano-cristianas desde la invasion de los Árabes*, I (Madrid, 1865), 134. The mint specifications were a fineness of $23\frac{3}{4}$ carats and 65 pieces to the mark. The text of the Pragmatic can be most conveniently consulted in Tomás Dasí, *Estudio de los reales de a ocho*, I (Valencia, 1950), Doc. no. 75, pp. LV–LXXIX.

⁷ A. Raugé van Gennep, "Le ducat venitien en Égypte: son influence sur le monnayage de l'or dans ce pays au commencement du XVe siècle," *Rev. Num.*, 4th series, I (1897), 373–81, 494–508. The esteem in which the ducat was held was due to its uniformity of weight as much as to its purity, the gold coins of the Mamluks in the fourteenth century being struck to no weight standard at all. The appearance of the ducat in quantity in Egypt is stated by a contemporary historian to date from about 1388, but seems to have been earlier, since the Florentine Niccolò Frescobaldi found it in common use in Cairo in 1384. An-Nāṣir Faraj's predecessor Saif-ed-dīn (1382–99) attempted to drive it out of circulation by reviving the old dinar of traditional weight, but had no success. Although the *nāsery* was of the same weight as the ducat, it was not of such fine gold and so was valued at less (Raugé van Gennep, *op. cit.*, 499–501).

⁸ Raugé van Gennep, *op. cit.*, 501. The coin of Al-Ashraf, known after him as the *ashrafi*, had a great future before it, since it provided the name and one of the main standards of weight for the later gold coins of Persia (H. L. Rabino di Borgomale, *Coins, medals and seals of the Shahs of Iran, 1500–1941*, Hertford, 1945, 14).

while even Muhammad the Conqueror took the ducat as the standard for his *altun*, the gold coin of the Ottoman Empire, struck for the first time in 1478.⁹

Equally significant is the way in which during the fifteenth century the word *ducat* came to displace *florin* as the common expression for a gold coin. To a writer of the fourteenth century, every gold coin was a "florin" of some particular sort, even if it bore no physical resemblance to the Italian coin and was of quite a different weight. The French *masse d'or* was a *florenus ad sceptrum*, the *chaise d'or* a *florenus ad cathedram*, and so on. But in the fifteenth century the common word was ducat; people spoke of ducats of Bohemia or Hungary, and in Holland and Germany, and even in Florence itself, the florin was termed "ducat of Florence."¹⁰ The fundamental reason for the change was the fact that the Venetian coin had been so little copied in western Europe. The Florentine florin had been widely imitated, many of these imitations were seriously debased, and the bad reputation they earned reflected quite unjustifiably upon their prototype.]

⁹ This at least is the earliest date (A. H. 883) recorded; we do not know positively that the coin was created in this year.

¹⁰ See the remarks of Adolphe Dieudonné, "Des espèces de circulation internationale en Europe, depuis saint Louis," *Revue suisse de numismatique*, XXII (1920), 15-17.

I

THE DESIGN OF THE VENETIAN DUCAT

1284—c. 1840¹¹

The ducat of Venice was struck in pure gold, of weight 3.56 gm.;¹² its diameter was at first 20 mm., but increased later to about 21 mm. The uniform design, which varied only in small details through the centuries, is illustrated by the large, infrequently struck ten-ducat piece shown in PLATE I, 1. The obverse displays St. Mark standing at the left; at the right the doge kneeling, holding a staff or banner, alongside which is the word DVX. The inscription around the border is the doge's name to right, and to left S. M. VENET(VS or I). On the reverse is the figure of Christ, surrounded by stars, in a pointed oval technically known as a mandorla. The legend is SIT.T.XPE.DAT.Q.TV.REGIS.ISTE.DVCAT (*Sit tibi Christe datus, quem tu regis, iste ducatus*, 'Let this duchy which thou rulest be dedicated to thee, O Christ'.)

[According to most works of reference, the name of the coin is derived from the last word of the legend. This is a

¹¹ The main works of reference are Nicolò Papadopoli, *Le monete di Venezia*, 3 vols. (Venice-Milan, 1893-1919); the *Corpus Nummorum Italicorum*, VII-VIII (Rome, 1915-17); and Giuseppe Castellani, *Catalogo della Raccolta Numismatica Papadopoli-Aldobrandini* (Civico Museo Correr), 2 vols. (Venice, 1925).

¹² The order of the Grand Council of 31 October 1284 which created the ducat prescribed that it should be "tam bona et fina per aurum vel melior ut est florenus" (Papadopoli, *op. cit.* I, 123). Authors like Pegolotti regularly take it as being 24 carat gold, and modern assays have found it to be 997/1000 fine (*Ibid.*, p. 124). The coin was struck at 67 to the mark of Venice.

• This has been variously estimated at between 237.52 g. and 238.453 g.; at the latter figure the weight of the ducat works out at 5.559 g.

popular derivation which is not correct. The word ducat was first applied to the silver grossi of Venice,¹³ coined from 1202 onwards, on which no such legend occurs, and when the new gold coins came into existence eighty years later they were called *ducati auri*, to distinguish them from the current *ducati argenti*, and ultimately the word "ducat" came to be applied solely to the gold coins. The evolution was precisely similar to that of the word "florin," which was used first of silver coins of Florence and subsequently of the *fiorini d'oro*, or *fiorini* for short. The word ducat originally meant the silver coins struck by Roger II (1102–54) and William I (1154–66) of Sicily from 1140 onwards for the duchy of Apulia, and their name (*ducatus* or *ducalis*) came from the *ducatus Apuliae*.¹⁴ It was presumably applied to the Venetian ducat because of a general resemblance in design,¹⁵ and because no other word existed at that time to denote a silver coin of higher value than a penny.]

Various changes in design occur, in the character of the doge's cap, in the lettering, in the disposition of the figure of Christ and the nimbus in the oval, in the number and arrangement of the stars. These changes, which often offer a means of identifying the prototype of an imitation, are

¹³ The proof is a passage in the chronicle of Martino da Canale, cited by Papadopoli (I, 81), which says under Enrico Dandolo (1192–1205) "fu comencie en Venise a faire les nobles mehailles d'argent que l'en apele ducat, qui cort parmi le monde por sa bonte." Martino da Canale wrote in the early thirteenth century, before the gold ducat existed.

¹⁴ See the appendix on the ducats of the Norman kings in Arthur Engel, *Recherches sur la numismatique et la sigillographie des Normands de Sicile et d'Italie* (Paris, 1882), 65–71.

¹⁵ The Norman ducat showed on the obverse the standing figures of Roger I and his son Roger, or William I and his son Roger, holding a long cross between them, and on the reverse the nimbate bust of Christ. The Venetian grosso (silver ducat) showed on the obverse two standing figures, the doge and St. Mark, holding a banner between them, and on the reverse the seated figure of Christ.

exhibited, with descriptive notes, on PLATES II to VI, alongside the complete list of doges. [The changes are not always exactly coterminous with the rule of the doges indicated, for there was a certain amount of overlap between some of the types, and particular details, such as the presence or absence of a beard on the doges of the late fifteenth and early sixteenth centuries, evidently depended upon the actual appearance of individual sovereigns. There are also occasionally quite inexplicable variations from the normal type. A ducat of Andrea Dandolo (1344–54) in the collection of Philip Grierson has the cruciform nimbus of Christ on the reverse replaced by a nimbus containing three small crosses, one above and one on either side of the head. In every other respect it is quite normal (wt. 3.51 g.), and there is no doubt that it is a product of the Venetian mint.]

The method of coining the ducats was not changed throughout their history; they were all hammered coins, with the exception of a milled pattern (PLATE VI,2) made under Austrian rule with the name of Francis II. [The earliest ducats had their dies adjusted $\uparrow\downarrow$, or more rarely $\uparrow\uparrow$, this practice, which was very unusual in the middle ages in the West, being no doubt derived from Byzantium.¹⁶ In the second half of the fourteenth century this regularity was abandoned, but it seems to have been revived in the fifteenth century, at least so far as the majority of the coins were concerned, though irregularity is found from time to time in every reign.

The issue of the ducats did not end with the dissolution of the Venetian Republic in 1797, though it is not easy to discover exactly how much longer their minting continued. Coins in the name of the last doge, Lodovico Manin (1789–97),

¹⁶ See Philip Grierson, "Pegged Venetian coin dies: their place in the history of die adjustment," *Numismatic Chronicle*, 6th series, XII (1952), 103. Cf. also below, p. 34.

are believed to have been struck down to 1823,¹⁷ since they were enormously popular in the Levant. The ducats with the title of FRANC.II¹⁸ were minted during the first Austrian occupation of Venice (1797–1805), partly at the mint in Venice and partly at that of Günzburg. Ducats with the title of FRANC.I¹⁹ were struck at Venice between 1815 and 1822, when their minting was discontinued,²⁰ but coins with the FRANC.II legend were apparently being struck from the old dies in c. 1840.²¹ These are indistinguishable from the earlier issue, but must none the less be regarded as the last Venetian ducats struck by the lawful mint of the city.]

¹⁷ So Carlo Kunz in Paul Lambros, *Monete inedite dei Gran Maestri dell'Ordine di S. Giovanni di Gerusalemme in Rodi* (Venice, 1865), 23, note i.

¹⁸ *CNI*, VIII, 644, nos. 10–11. The numbering of this emperor, who ruled 1792–1835, is peculiar, since he was Francis II as Holy Roman Emperor (1792–1806) but Francis I as Emperor of Austria (1806–1835). Coins giving him the title of Francis II therefore precede those bearing the title of Francis I.

¹⁹ *Ibid.*, 655, no. 38.

²⁰ Siegfried Becher, *Das österreichische Münzwesen vom Jahre 1524 bis 1838* (Vienna, 1835), I (i), 116–117; Josef C. Adam, “Die Münzen unter der Regierung des Kaisers Franz II. bzw. Kaiser I von Oesterreich 1792 bis 1835,” *Mitteilungen des Clubs der Münz- und Medaillenfreunde in Wien*, XI (1900), 45.

²¹ Josef Cejnek, *Österreichische Münzprägungen von 1705 bis 1935* (Vienna, 1935), 68.

II

DUCATS OF THE ROMAN SENATE

The earliest imitations of the Venetian ducat, most closely resembling their prototype in style, are the series issued in the name of the Roman Senate²² in the fourteenth and early fifteenth century.²³ They differ from the contemporary Venetian ducats almost solely in their inscriptions. In place of S. M. VENETI we find S. PETRVS; in place of DVX alongside the staff we find SEN, which is continued in the circular inscription as ATOR VRBIS; and on the reverse the inscription is ROMA CAPVT MVNDI. SPQR.

[These ducats are usually dated 1350–1439.²⁴ The terminal date may be accepted, for an exchange table of 1439 de-

²² Though the coins are called "senatorial" because they refer to the Senate and not to the Pope, they were issued by the city authorities with papal approbation, and after the return of the popes to Rome from their sojourn at Avignon there was only a single mint in Rome striking both "papal" and "senatorial" coins. See Camillo Serafini, "L'autorità pontificia nelle monete del Senato Romano," *Atti e Memorie dell'Istituto italiano di Numismatica*, I (1913), 129–41.

²³ The main collections of material are the *CNI*, XV, 160–80, nos. 495–662, and Camillo Serafini, *Le monete e le bolle plumbee pontificie del Medagliere Vaticano*, I (Milan, 1910), 56–63, nos. 377–463. An invaluable study is V. Capobianchi, "Appunti per servire all'ordinamento delle monete coniate dal Senato Romano dal 1184 al 1439," *Archivio della Reale Società romana di Storia patria*, XVIII (1895), 417–45; XIX (1896), 75–123. Edoardo Martinori's "Annali della Zecca di Roma. Serie del Senato Romano, 1184–1439," *Atti e Memorie dell'Istituto italiano di Numismatica*, VI (1930), 220–60, unfortunately got no further than a bibliographical introduction, and is of little use in this connection.

²⁴ See Serafini, *op. cit.*, and the *CNI*. The reasoning is set out by Capobianchi, *op. cit.*, 104–7, 113–14.

scribes the ducat of Pope Eugenius IV bearing his arms, which replaced the ducat of Venetian type, as a *ducato nuovo*. The date of origin is based on the assumption that the ducats were first issued on the occasion of the Papal Jubilee of 1350, since it was on this occasion that the Sudario, the cloth showing the face of the Saviour, was exhibited in Rome and first came into prominence, and the Sudario is very frequently used as a symbol in the legends of the ducats. Such reasoning does not exclude the possibility of some of the ducats being earlier than 1350, and we have good evidence that they were, for the Florentine merchant Pegolotti, writing c. 1340, includes *romanini d'oro a carati 23 e 3/4*, which can only mean these ducats, in the list of gold coins current in his day.²⁵ They did not yet exist in 1317, since the chapters relating to coinage in the *Statuti dei Mercanti di Roma* of this year refer only to money of silver and billon.²⁶ Their origin must therefore be placed between 1317 and c. 1340.

The three stages²⁷ in the history of the senatorial ducat are illustrated on PLATE VII. They differ according to the obverse legend. The first is that closest to the Venetian original, with S. PETRVS (corresponding to S. M. VENETI) reading vertically downwards to left, SEN (corresponding to DVX) reading vertically downwards in the center and finally the remainder of the last word (*Sen*)ATOR.VRBIS reading outwardly downwards, in a position corresponding to the doge's name on Venetian coins, on the right. The second series is identical with the first save that SEN reads

²⁵ Francesco Balducci Pegolotti, *La pratica della mercatura*, ed. Allan Evans (Mediaeval Academy of America, Publications No. 24, Cambridge, Mass., 1936), 287. On the date at which Pegolotti was writing, *ibid.*, xiii-xiv. Much of the material is earlier, but how much earlier it is impossible to say, since the text has not yet been critically analyzed.

²⁶ Capobianchi, *op. cit.*, 104.

²⁷ The CNI and Serafini have three stages; Capobianchi makes five by further subdividing the second and third according to the way in which SPQR is written in the reverse legend.

vertically upwards, making the sequence ATOR.VRBIS a more natural one. The third continues this arrangement, but S. PETRVS now reads outwardly upwards, following the circumference of the coin. Within these broad divisions there are many varieties of moneyer's or issue marks (crossed keys, Sudario, Moor's head, rose, etc.), some of which are also found on silver coins which bear the names of individual popes and thus allow groups of ducats on which they occur to be given an approximate date.²⁸ In the final period the banner on the obverse terminates below in a shield with the Condulmerio arms (PLATE VII, 4), those of Pope Eugenius IV (1431-47), whose personal name was Gabriello Condulmerio.]

These coins were followed by the regular papal coinage of ducats, retaining the old size and weight but with designs in which all traces of the Venetian type are lost. [The only apparent exception to this is the ducat — a double ducat also exists — of Paul II (1464-71) showing the kneeling pope receiving the keys from St. Peter (PLATE VIII, 4), but the resemblance between it and the traditional Venetian type is purely accidental. The bestowal of the keys was an obvious theme on a papal coin, and the design is one of a remarkable series of novel types produced towards the middle of the fifteenth century by an enterprising and talented moneyer and die-engraver, Miliano Orfini of Foligno, who worked for a number of years in the papal mint.²⁹

The existence of this Roman series of imitation ducats is at first sight an anomaly, since the only other large group of Venetian imitations was situated in the eastern Mediterranean area, and there is no reason to suppose that Venetian

²⁸ See E. Martinori, *Annali delle Zecca di Roma: Urbano V – Giovanni XXIII* (Rome, 1917), 9, 25, 31-2, 41, 49; *Martino V – Eugenio IV* (1918), 8-9, 29.

²⁹ See E. Martinori, *Annali della Zecca di Roma: Nicolò V – Pio II* (Rome, 1918), *Paolo II* (1917), and *Sisto IV – Innocenzo VIII* (1917), *passim*; L. Forrer, *Biographical Dictionary of Medallists*, s.v. Orsini (*sic.*!), Emiliano.

coinage was particularly important in Rome. The most likely explanation is that since the economic life of the city revolved around the financial operations of the papal curia and the entertainment of visitors, in either case being concerned with the subjects of every European state, it was desirable to have a gold coinage which approximated in value and appearance to one or other of the best known coinages of the day. The florin was out of the question, for the Roman mint was largely controlled and administered by Florentines, and the magistrates of Florence took strong exception to the imitation of the coins of their city and endeavored to prevent it where they could. If the florin could not be imitated, the Venetian ducat was the next best thing, and the moneyers had no scruples in making the resemblance as close as they reasonably could.]

III

OTHER WESTERN EUROPEAN IMITATIONS

The further imitations of the Venetian ducat in western Europe are, unlike the copies of the Florentine florin, relatively few, and never occur far afield from Italy. No considerable coinages took place, and specimens of such as exist are rare.

Genoa, the great maritime rival of Venice, adopted the type of standing saint and kneeling ruler in the middle of the sixteenth century for some of its silver coinage, but not for any extensive gold coinage. There occurs, however, a gold ducat (PLATE VIII, 1) closely resembling the Venetian piece, with obverse inscription DVX.ĒT.GVB REIP.GEN and reverse inscription DEO.OPT.MAX.GLO. This ducat, in the former King of Italy's collection,³⁰ is not listed in any of the principal works on the coinage of Genoa, and should perhaps be classed as a pattern, [though the only recorded specimen shows considerable signs of wear. Its style, and the fact that a similar Venetian type was introduced on the silver testone in 1554, permits us to assign it to the mid-sixteenth century.]

In the same category of pattern is to be placed a unique silver piece of Duke Ferdinand Gonzaga of Mantua (1612-26), illustrated on Plate VIII, 2, which shows St. Andrew standing, holding a long cross and a monstrance, with the kneeling and bare-headed duke to the right.³¹ The obverse inscription

³⁰ *CNI*, III, 258, no. 1.

³¹ First published by N. Papadopoli, "Monete italiane inedite della Raccolta Papadopoli," *Rivista italiana di numismatica*, XXVI (1913), 81-2, and reproduced in *CNI*, IV, 355, no. 125. The coin is now in the Correr Museum at Venice (no. 4049).

is FER. D. G. DVX. MAN. VI. E. M. F. with IIII, i. e., his number as duke of Montferrat (MF) beneath. On the reverse is the figure of the Virgin in a mandorla surrounded by the inscription PRAESIDIVM NOSTRVM.

Belonging also to the group of imitations of the Venetian ducat is the piece issued by Amadeus VIII of Savoy (1416–39)³² shown on Plate VIII, 3, which, however, illustrates the breaking away from the design of the prototype which is common in imitative coinages and which will be seen again in the coins of Malta. In this case the reverse shows instead of the figure of Christ the arms of Savoy. The obverse has the standing saint and the kneeling ruler, but the saint (Maurice) is a figure in armor. The inscriptions are AMADEVVS.DVX.SABAVDIE and SIT.NOM.DIN (*sic*) BN. DTM (*sit nomen Domini benedictum*).

The next two continental European imitations to be noted are of interest as being the most northerly excursions of the Venetian type. The first is the ducat issued by the principality of Dombes in Burgundy in the seventeenth century. This (PLATE VIII, 5) has the type of St. Mark and the kneeling ruler, with DVX alongside the standard. The inscription is FRANC. PRINC on the right and SM TREVO upwards on the left. On the reverse the inscription is SIT XI ADIVTO REGIS TE DOMBA.

[These ducats were first ascribed by numismatists to Francis II of Dombes (1582–92), as the name FRANC seemed to imply. But the design of the reverse, with stars above and below the figure of Christ, corresponds to that of Venetian ducats of the mid-seventeenth century, and it is now agreed that they must be assigned to Anne Marie Louise de Montpensier, princess of Dombes (1650–93). Boucher d'Argis, who was a member of the sovereign council of Dombes and had

³² *CNI*, I, 48–9, nos. 1–8.

access to its records, wrote of the exploitation of the right of coinage by the mint of Dombes during her reign:

Mademoiselle de Montpensier fit travailler longtemps à la monnaie de Trévoux; on y fabriqua des pièces de 15, 30 et 60 sols, mais surtout beaucoup de pièces de cinq sols dont il se fit un grand commerce dans le Levant et des sequins d'or au coin de saint Marc. Les Vénitiens s'en plaignirent hautement; mais la souveraine de Dombes leur répondit que saint Marc était le patron de Trévoux comme il l'est de Venise.

The name FRANC was used to preserve the resemblance to the Venetian coins, on none of which the name *Marie* appears, and was probably specifically intended to recall the ducats of Francesco Erizzo (1631–46), FRANC (*iae*) PRINC (*eps* or *essa*) being not very remote from FRANC.ERIZZO.³³

Of the same period are the ducats issued in 1650–72 and 1679–86 by William Henry, Prince of Orange and later William III of England (PLATE VIII, 6), bearing for obverse inscription GVIL.HENR.D on the right, and on the left, reading vertically upwards, GPRAV.E.S. The reverse legend reads SOLI.DEO.HONOR.SIT.GLORIA.³⁴ These, like the

³³ The attribution is discussed in an excellent article by P. Mantellier, "Sequins frappés à Trévoux," *RN*, 2nd series, II (1857), 264–79, from which the quotation of Boucher d'Argis cited above is taken. Trévoux was the mint of Dombes. Mantellier's conclusions are summarized in F. Poey d'Avant, *Monnaies féodales de France* (Paris, 1862), III, 96–7. Arnold Morel-Fatio, "Les sequins fabriqués par les princes de Dombes à Trévoux," *RN*, 2nd series, X (1865), 199–204, subsequently argued that the coins should be assigned to Anne Marie Louise's predecessor Gaston (1627–50), on the ground that he was Francesco Erizzo's contemporary, but this is not sufficient proof, and we have documentary evidence for Anne Marie Louise's interest in the affair. Morel-Fatio does, however, publish a uniface copper piece of Venetian ducat style, perhaps a pattern for such a coinage of Gaston, with the legend DVX.G.DOM S.M. TREVO.

³⁴ N. Papadopoli, "Imitazione dello zecchino veneziano fatta da Guglielmo Enrico d'Orange (1650–1702)," *Riv. Ital. Num.*, XXIII (1910), 333–40. The existence of the coin had been known to Poey d'Avant (II, 410), but only on the authority of Duby, who in turn relied on the description of a

ducats of Dombes, were issued for the Levant trade. In both of these ducats a V of the obverse inscription is arranged to fall in the position of the V in the S. M. VENETI of the prototype, so that on casual inspection the piece would appear to be a Venetian ducat.

The last European ducat imitation to be noted is of peculiar interest because it was issued in Florence, whose florin was for centuries the chief rival of the Venetian ducat. It was not an official issue, but was put out in 1805 as a commercial venture for use in the Levant. It bears on the obverse a standing saint and a kneeling bishop holding a crozier; the inscription is S. M. FLOR. D. ZEN. E.P.F. (i. e. *Divus Zenobio episcopus Florentiae*). To the left of the crozier, reading vertically downwards, is ALVX. On the reverse, surrounding the figure of St. John in a mandorla, is the inscription S. IOAN. BAPT. F. ZACHAR (PLATE VIII, 7). [These ducats, which were known as *Zenobini* or *Zanobini*, were struck at the Tuscan mint for a banker named Cesare Lampronti, and were made deliberately crude in style so as to resemble more closely the last coinages of Lodovico Manin. The venture was not a success and many of the coins were withdrawn and remelted, which accounts for their present rarity.³⁵ There exists another version, of much better

specimen in the imperial collection at Vienna in Johann Friedrich Joachim, *Das neueröffnete Münzcabinet*, III (Nürnberg, 1770), 36–8.

³⁵ The best account is that of Guido Ciabatti in a ten-page pamphlet published at Florence in 1865 and entitled *Illustrazione dello zecchino detto Zanobino (moneta inedita)*. Ciabatti made inquiries about it at the mint and discovered the original dies used for striking the coins; he illustrates a wax impression made from them. He was mistaken, however, in supposing the coin to be unpublished. A specimen in the Reichel collection, now in the Hermitage, was described in *Die Reichelsche Münzsammlung in St. Petersburg*, IX (St. Petersburg, 1843), 466, no. 2, and one in some Italian collection was illustrated in [Giuseppe Grimaldo], *Numismata Veneta* (Venice, 1859), under Doge XLVIII, while the origins and nature of the piece had been briefly described by J. G. Pfister, "On an unedited gold

style and without the meaningless ALVX, but this bears every mark of being a modern forgery put out to deceive collectors (PLATE VIII, 8).]

coin of Florence, struck in 1805, which was called "Il Zecchino di San Zenobio," *Numismatic Chronicle*, XVI (1853-4), 77-80. There was a specimen of the coin in the Ruchat sale, Part II (Rome: Santamaria, 13 June 1921), no. 1266.

IV

DUCATS OF THE KNIGHTS OF ST. JOHN OF JERUSALEM AT RHODES AND MALTA

The longest series of ducats of Venetian type, next to the series of Venice itself, was issued by the Knights of St. John of Jerusalem, continuing from the middle of the fourteenth to nearly the middle of the eighteenth century. This series is not continuous, for ducats were not coined, or at least have not been recovered, for about a third of the Grand Masters. Rather considerable deviations of design from the Venetian prototype are found in the series, but on the whole they are close copies of the current coins of Venice.

On PLATES IX–X the complete list of Grand Masters is given, with asterisks to indicate those who are known to have struck ducats. Representative coins of all the main types are shown to the right.

RHODES³⁶

The first gold ducat was struck by Dieudonné de Gozon (1346–53), with the obverse of the Venetian type: the Grand

³⁶ The two chief works are Gustave Schlumberger, *Numismatique de l'Orient latin* (Paris, 1878), 214–68, and *Supplément* (1882), 14–15, 21–22, and Baron Édouard Henri Furse, *Mémoires numismatiques de l'Ordre souverain de saint Jean de Jérusalem*, 2nd ed. (Rome, 1889). It is often necessary to refer to the older monographs of Julius Friedlaender, *Die Münzen des Johanniter-Ordens auf Rhodus, 1309 bis 1522* (Berlin, 1843), and the work of Lambros referred to above, p. 8, n. 17. An essential study of the earliest ducats is Nicolò Papadopoli, "I primi zecchini dei Gran Maestri dell'Ordine di San Giovanni di Gerusalemme," *Procès-Verbaux et Mémoires du Congrès International de Numismatique, Bruxelles, 1910*, 349–58.

Master kneeling, receiving a banner from the hands of St. John the Baptist. The reverse has the distinctive design of an angel seated on the tomb of Christ. The obverse legends are S.IOhES.B vertically downwards on the left, MGR (*Magister*) vertically downwards in the center, and F(*rater*) DEODAT downwards on the right. The reverse legend is +hOSPITALIS QVENT.RODI, the Q being an abbreviation mark for *con*, so that QVENT stands for *conventus*. This type was also struck by the next Master, Pierre de Cornillan (1354-55).

The next appearance of the ducat is under Antoine Fluvian (1421-37), who issued extremely close imitations of the Venetian coin, with the inscription S.M.VENET and DVX, differing only in the name of the "doge," F.ANTONIVS. These pieces were protested by Venice, and the Grand Master issued a second series on which the reference to St. Mark and Venice was replaced by one to St. John the Baptist and MRO was sometimes substituted for DVX. The next ducats known, those of Jacques de Milly (1454-61), followed essentially the same pattern, with the reverse of the Venetian ducat, and on the obverse the kneeling Grand Master, bare-headed, with the cross of the Order on the shoulder of his robe, and the name of St. John instead of St. Mark.

The ducats of the last six Grand Masters at Rhodes, from Jean Ursino (1467-76) to Philippe Villiers de l'Isle d'Adam (1521-22), are close copies of the Venetian ducat (including the doge's cap), differing only in the obverse inscription. This has F(*rater*) and the Master's name on the right, S.IOhANIS to the left, and, in place of DVX alongside the staff, M.P. (*magister Petrus*) or another Master's initial. The introduction of the exergual line at about 1500 in the Venetian ducat is reflected in the ducat of Émery d'Amboise (1503-12).

•

MALTA³⁷

The coinage of ducats by the Knights of St. John, interrupted by the expulsion of the Order from Rhodes in 1522, was resumed at Malta after 1534 with pieces still closely copying the contemporary Venetian designs. Certain changes, however, were made at this time, to continue for nearly a century. The obverse inscription no longer mentions St. John, but gives the name of the Grand Master in full, around the circumference of the coin. In the case of one ruler, Jean d'Homèdes (1536–53), the date appears beneath the exergual line. The reverse design is still Christ surrounded by stars in a mandorla, but the inscription is changed to DA·MIHI·VIRTVTEM·CONTRA·HOSTES·TVOS.

Early in the seventeenth century, with Antoine de Paule (1623–36), the kneeling Grand Master again begins to be represented bare-headed, and St. John is depicted in a short skirt.

At the end of the seventeenth century a major change of design was introduced with the abandonment of the figure of Christ on the reverse in favor of the arms of the Grand Master, and the date reappears. Under the two Grand Masters issuing these pieces, Grégoire Caraffa (1680–90) and Adrien de Wignacourt (1690–97), there were also struck four-ducat pieces of the same general style (PLATE I, 2), on which, however, the kneeling figure on the obverse is no longer robed, but appears in contemporary costume.

Under the last three rulers who issued ducats of the Venetian type (1697–1736) the obverse figures are again changed. St. John appears in a tattered costume, the Grand Master in ornamental knee-breeches, and the staff carries a large flag bearing a cross. The inscription is VINCES PIETATE. On

³⁷ The chief authorities are the book by Furse, cited in the preceding note, and H. Calleja Schembri, *Coins and medals of the Knights of Malta* (London, 1908).

the reverse appear the arms of the Grand Master with his name and title.

This series ended in 1725. After it the ducat continued for a time as a monetary denomination, but with the portrait of the Grand Master on the obverse, thus losing all resemblance to the Venetian coin so long imitated.

V

OTHER EASTERN MEDITERRANEAN IMITATIONS

Concurrently with the coinage of ducats by the Knights of St. John of Jerusalem and with the wide circulation of the Venetian ducat in the Latin kingdoms and principalities of the eastern Mediterranean, there occurred a number of imitative coinages in that region. The ducats in this category are all close imitations of the Venetian type, with the substitution of local rulers' names for those of the doges and other saints for St. Mark. They are frequently of base gold and crude workmanship.

The most complete series of these pieces was issued on the island of Chios,³⁸ under Genoa, starting with the coinage of Tommaso di Campofregoso (1415-21), which bears the obverse inscription T.DVX.IANVE and S. LAVRET (PLATE XI, 1).³⁹ The figures of the saint and duke on the obverse, and of Christ on the reverse, with the usual reverse legend *Sit tibi Christe*, etc., are closely copied from the contemporary Venetian coins.

Following the reign of Tommaso di Campofregoso, Chios, together with Genoa, came under the rule of Milan, and the gold ducats of 1421-36 (PLATE XI, 2) have the inscription

³⁸ The best accounts of the ducats of Chios are in Schlumberger, *op. cit.*, 418-23, and *Supplément* (1882), 17-18, and Paul Lambros (Lampros), *Μεσαιωνικά νομίσματα τῶν δυνάστων τῆς Χίου* (Athens, 1886). The older monograph of Domenico Promis, *La zecca di Scio durante il dominio dei Genovesi* (Turin, 1865), is still of use. The two articles by Gnechchi in the *Rivista italiana di numismatica* for 1882 do not touch on the ducats.

³⁹ Lambros and Schlumberger, probably with justice, attribute to Chios a number of the blundered imitations of Venetian ducats of the late fourteenth and early fifteenth centuries of the types discussed below, pp. 25-8

D(*ux*). MEDIOLANI for Filippo Maria Visconti, duke of Milan, and the saint is S.PETRVS.⁴⁰ After 1436 until 1443 Tommaso di Campofregoso again coined ducats, and the series is continued by five Campofregosi until 1458, with a return to St. Laurence as the patron saint. In this period the staff for the standard commonly rests on a large S for *Sius*, one of the ways in which the name of the island was spelled (PLATE XI, 3). The last of this series is a ducat issued in 1458–61 by Charles VII of France during his rule at Genoa, with CLI in place of DVX alongside the standard, and COMVN.IAN and S. LAVRETI for inscription (PLATE XI, 4). [The initial L of *Laureti* is written like a V to recall the word *Veneti*.]

To be included in the Chios series also are the ducats issued by Venice under the doge Leonardo Loredan (1501–21) which were known as Sciotti and were intended for the Levant (PLATE XI, 5)⁴¹. They are of rather crude workmanship, with the obverse inscription entirely encircling the figures.

In this same general category are the ducats coined for the island of Mytilene by its rulers, the Gattilusi, between 1376 and 1462, with the ruler's name and D. METELI[NI] (PLATE XII, 2–3).⁴² Still farther east are to be noted the ducats of

⁴⁰ A specimen of the coin in the imperial collection at Vienna was published by Alfred Nagl, "Ueber eine Mailänder Goldmünze nach dem Typus des Venetianer Dukatens," *Numismatische Zeitschrift*, XXIII (1891), 181–90. He attributed it to Milan itself, and supposed it to have been struck to commemorate the bestowal of the title of duke on Gian Galeazzo Visconti in 1395. F. Schweitzer, who had published it earlier ("Zecchino di tipo veneto dell'arcivescovo Giovanni Visconti, signore di Milano (1349–54)" in his *Notizie peregrine di numismatica e d'archeologia*, III (Trieste, 1856), 65–70), had equally incorrectly attributed it to Giovanni Visconti.

⁴¹ The name *sciotti* and the design are known from a Venetian exchange table of 1543 reproduced in Papadopoli, *Monete di Venezia*, II, facing p. 178. There was a specimen of the coin in the Biblioteca Reale at Turin (Papadopoli, *op. cit.*, II, 179) as well as the one illustrated here.

⁴² Schlumberger, *op. cit.*, pp. 432–46 (by Lambros); *Supplément*, pp. 18–19.

Foglia Vecchia (Phocaea) on the mainland of Asia Minor, issued by Dorino Gattilusio (PLATE XII, 4), with the inscription D.FOLIE.⁴³ Most easterly of all are the ducats of Chiote type struck by Filippo Maria Visconti and Tommaso di Campofregoso for Pera, the Genoese quarter of Constantinople.⁴⁴ They have a large P at the base of the staff, taking the place of the S on the ducats of Chios.

In the series of eastern Mediterranean ducats must also be included certain close copies of the ducat of Andrea Dandolo (1344–54), with blundered lettering and with a K or KO at the feet of the figure of Christ on the reverse (PLATE XII, 1). These have been attributed to Robert of Anjou, duke of Achaia (1346–64), and if this is correct they were presumably struck at Chiarenza.⁴⁵

⁴³ *Ibid.*, pp. 442, 445–6. P. Lambros in his *Ἀνέκδοτα νομίσματα καὶ μολυβδόβουλλα τῶν κατὰ τοὺς μέσους αἰῶνας δυνάστων τῆς Ἑλλάδος* (Athens, 1880), 66–73 publishes two further imitation ducats which in his view contained the names of Andreolo and Domenico Cattaneo. They are reproduced in Schlumberger, *Suppl.*, pl. XXI, 16, 18; cf. p. 19. In my view the legends are merely blundered and the attributions quite uncertain.

⁴⁴ Schlumberger, *op. cit.*, pp. 447–54. It is largely a summary of P. Lambros, *Ἀνέκδοτα νομίσματα κοπέντα ἐν Πέραν ὑπὸ τῆς αὐτόθι ἀποικίας τῶν Γενουησίων* (Athens, 1872). In his *Supplément*, 22, Schlumberger notes the acquisition of a further specimen by Lambros.

⁴⁵ Schlumberger, *op. cit.*, pp. 320–1. There is a long series of them in the Papadopoli collection, now in the Museo Correr at Venice; see Castellani, *op. cit.* (above p. 5, n. 11), nos. 16216–32. For one struck in silver, see below, p. 26 and Pl. XIII, 2. The attribution to Robert of Anjou was made by P. Lambros in his *Ἀνέκδοτα νομίσματα κοπέντα ἐν Γλαρέντσα κατὰ μίμησιν τῶν Ἑνετικῶν ὑπὸ Ροβέρτου τοῦ ἐξ Ἀνδραγαυῶν ἡγεμόνος τῆς Πελοποννήσου*, 1346–1364 (Athens, 1876). It is certain that the Greek workmen who made these coins often substituted K for R, a letter which did not exist in their alphabet; cf. ANDK for ANDR on the obverse of many of these coins. Nevertheless the attributions seem to me rather hazardous, and Papadopoli apparently did not accept them.

VI

ANONYMOUS LEVANTINE IMITATIONS

The Venetian ducat circulated widely in the eastern Mediterranean or Levant; this we know from the written records,⁴⁶ and it is confirmed by the frequent occurrence of ducats with a Turkish counterstamp (PLATE V, 1) meaning "standard" or "genuine."⁴⁷ In addition to the Venetian and other "official" issues of Rhodes, Malta, Chios, etc., there was a very wide circulation of imitations, often of poor workmanship, with jumbled or illegible inscriptions, of metal of varying degrees of baseness. These can only be attributed to a place of origin if their provenance happens to be known; usually they are merely described as "Levantine imitations." A few selected specimens are shown in PLATE XIII, which together with the impressions from dies described in Sec-

⁴⁶ For many later medieval records, see the article by Raugé van Gennep cited above, p. 3, n. 7. One of his most striking instances is that of an Arab historian of the fifteenth century giving the price of wheat at Mecca in terms of Venetian ducats. I know of no collection of material dealing with later centuries, but all contemporary accounts of the Ottomans remark on their importance. Much information on their circulation in Persia will be found in the work of Rabino di Borgomale, cited above, p. 3, n. 8. They were the chief form in which foreign gold entered Persia (pp. 3, 38), and had a premium over other gold coins since they were bought up by money-changers to sell to travelers to Mecca or India (p. 42), as their international reputation made them acceptable everywhere.

⁴⁷ Paul Bordeaux, "Les sequins venitiens contremarqués de caractères arabes," *Riv. ital. num.*, XXIII (1910), 119-26. This particular countermark is found on ducats ranging from the late sixteenth to the early eighteenth century, and appears to have been imposed on coins entering Asia Minor in the early eighteenth century from the newly conquered provinces of Greece and the Morea.

tion VIII and shown on PLATE XVI will serve to illustrate the whole series.

[The first and second specimens are imitations of ducats of Andrea Dandolo (1344–54), the legends in both cases being perfectly recognizable. The first of the two is of the same size and style as the original, and clearly a contemporary imitation. They are fairly common,⁴⁸ and it is probable that one of their chief centers of manufacture was in Chios. The second coin, which belongs to the class ascribed conjecturally to Robert of Anjou, is of silver and of good style, though the legend is badly blundered. It was no doubt originally gilded, and the spread fabric, which makes it decidedly larger than the normal ducat, was necessary in order to bring it up to full ducat weight.]

The third specimen is typical of very large numbers with semi-legible inscriptions cut by illiterate engravers. In this case the character of the doge's cap, the occurrence of the exergual line, and the nimbus of Christ projecting beyond the oval, date the prototype as of about 1500, but the doge's name cannot be deciphered or identified with any doge of this period. Other specimens of this kind can be identified by their more legible inscriptions as copies of doges through the seventeenth and eighteenth centuries.⁴⁹

The fourth specimen is of extreme crudity in the rendering of the figures, and the inscription can be recognized as a bungled PAVL.RAINER (1779–89). [No. 5 is an imitation of some unidentifiable eighteenth century doge, but its aberrant weight (2.95 g.) makes one suspect that it is a trinket made by a jeweller and was not intended as a coin at all.

⁴⁸ See Schlumberger, *op. cit.*, 497 and Pl. XIX, 25–26, and *Supplément*, 21 and Pl. XXI, 19–22, for illustrations of other specimens. There is a long series in the Papadopoli collection (Castellani, nos. 16197–16215). The coins assigned to Robert of Anjou (above, p. 24) really belong to the same class.

⁴⁹ See Castellani, *op. cit.*, nos. 16086–94 (14th–15th century imitations attributed to Chios), 16233–70 (14th–18th century imitations), 16275–81 (imitations in copper).

No. 6 is a nineteenth century imitation of a ducat of the last doge, Lodovico Manin (1789-97). The counterstamp is of a type which during the past half-century has, at least in theory, been placed on all gold objects passing through the hands of goldsmiths in Egypt. It has three panels: the left one contains the fineness, the center one the name of King Faruk, and the third Roman or Arabic letters indicating the date. The more usual occupant of the central panel is an ibis, the international goldsmith's symbol for Egypt. In this particular case the fineness is 21 carats and the date letter is , , which represents a period running from 11 February 1951 to 8 January 1953.⁵⁰

The last two coins illustrated belong to a different class. No. 7 is an imitation ducat of Marino Falier (1354-5). This doge ruled for only seven months, and his short reign makes his ducats among the rarest in the Venetian series. It is in the highest degree improbable that they would have been imitated in the Levant, and it seems likely that this piece is a crude modern forgery produced with the interests of the collector in mind.⁵¹

The final specimen, No. 8, is of peculiar interest in the domain of imitations, because it copies not one current gold piece but two. It is of base gold and scyphate, like the later Byzantine nomismata, and the obverse type is that of two standing figures clearly derived from Byzantine models; the figures in fact closely resemble those appearing on the coins of such twelfth century sovereigns as Manuel I (1143-80) and Isaac II (1185-1204). The inscription is Greek in appearance,

⁵⁰ I owe this information to Dr. George C. Miles, who will shortly contribute a study of these counterstamps to *Museum Notes*.

⁵¹ There are other forgeries of the rare coins of this doge. See Castellani, *op. cit.*, no. 16544 for a specimen of an otherwise unknown denaro scodellato, and a copper piece published by Philip Grierson, "Deux fausses monnaies vénitiennes du moyen âge," *Schweitzer Münzblätter*, IV (1954), 86-90.

but quite meaningless. The reverse type is the figure of Christ in a mandorla, surrounded by stars, with a blundered inscription. From the fact that the stars completely surround the figure, it is evident that the prototype for this coin was of the seventeenth century or later. [The piece came from Cyprus, and its abnormal type and weight (3.75 g.) suggest that it is a jeweller's ornament and not a coin.]

VII INDIAN IMITATIONS

Venetian ducats, "checkens," "checkeens," chequeens,"⁵² played a prominent role in the commerce of Europe with India. References to the occurrence of Venetian ducats in India occur as early as the fifteenth century, [and the Portuguese discoverers found them in use at Calicut and in the treasury of the king of Ceylon. A late fourteenth century hoard of 448 gold coins found at Broach (near Bombay) in 1882 included 34 Venetian ducats, and smaller finds of later centuries have been recorded elsewhere in India and as far afield as Ceylon. The coins seem to have been especially common in the Malabar region, on the west coast, and are frequently referred to in commercial records down to the early nineteenth century.⁵³ They were known in southern India as *śāṇārak-*

⁵² For variant spellings, see the *Oxford English Dictionary*, s. v. "chequeen." It comes from It. *zecchino*, an alternative word for the Venetian ducat, and appears in English in the late sixteenth century; it has only recently been driven out by the form *sequin*, imported from France. *Zecchino* in turn derives from It. *zecca*, "mint," from Arab. *sikka*, originally a die used in coining but by transference the mint where the work was done. Cf. such terms as "sikka" rupees, common in the literature of the East India Company, meaning newly minted coins fresh from the dies. *Zecca* is sometimes supposed to be connected with *Giudecca*, the quarter of Venice where the mint was situated, but this is unlikely; *Giudecca* is traditionally supposed to mean "ghetto," from *giudeo*, "Jew."

⁵³ See T. G. Aravamuthan, *Catalogue of Venetian coins in the Madras Government Museum* (Bulletin of the Madras Govt. Museum. New Series, General Section, vol. III, Pt. 3, Madras, 1938). Only 15 coins, one of them an imitation, are in the museum, but the publication is of the greatest value for its collection of references to ducats and its information on commercial relations between Europe and India.

kāśu, "the coin of the *śāṇār*," the *śāṇār* being a toddy-drawer, a person whose profession it is to climb the palm trees and draw off the sap from which toddy is made. It has been supposed that the figures of either St. Mark or the doge were mistaken for a *śāṇār*, the staff between them being the palm-tree, but this is scarcely likely. An alternative explanation is that the word comes from *Venetiano*; the dropping of the unaccented first part of the word would leave something like *shano*, and the assimilation of this to *śāṇār* would provide an obvious popular etymology.⁵⁴

Imitations are found of all degrees of degradation of inscriptions and of quality of metal. It is difficult in many cases, without knowledge of provenance, to differentiate these copies from the "Levantine" imitations,⁵⁵ but in some instances the types take on a distinctively Hindu character which makes the attribution to India unquestionable. A few selected specimens are shown on PLATE XIV.

Attention may be called to the transformation of the staff bearing banner or cross into a staff or tree with trident-like top; to the appearance of a floral pattern at the feet of the figures, which Aravamuthan identifies as a lotus in bloom; and to the transformation of the figures into Hindu deities. This transformation is shown most completely in Nos. 6 and 7, where the standing figures on the obverse are the Hindu deities Rama and Sita and the reverse figure their devotee Lakshmana.⁵⁶ The obverse inscription of No. 6 is a recognizable rendering of ALOY.MOCEN S.M.VENET. In the last piece, No. 7, although the workmanship is excellent in the figures of the deities, the inscription is a mere jumble of pseudo letters. The place of issue of these pieces is unknown.

⁵⁴ So Aravamuthan, *op. cit.*, 6-7.

⁵⁵ Nos. 1 and 2 on PLATE XIV may well be Levantine, not Indian, since No. 2, which is of silver, was procured in the Levant.

⁵⁶ Pp. 4-6. Aravamuthan illustrates such a piece, one of eight in the possession of a Cawnpore family which had owned them for several generations.

It is probable that many of these pieces were made not for currency but to be used in necklaces or other jewelry, where their broad flan was more acceptable than the small thick native Indian gold coins. [Oliver Codrington, who described the Broach hoard alluded to above, wrote of Bombay in 1882 that "the sequin still holds its own as the favorite coin for ornaments in this part of India" and declared that "they are still made in quantities in the city, a thin piece of gold being hammered between rudely cut coin dies of the shape of hammer beads."⁵⁷ In Travancore such necklaces were much worn by the Syrian Christians, who prized them as religious medals.⁵⁸]

⁵⁷ Quoted by Aravamuthan, *op. cit.*, p. 4.

⁵⁸ Aravamuthan, *loc. cit.* The Portuguese colony of Goa had the reputation of being a prolific source of these trinkets. See R. H. C. Tuffnell, *Coins of southern India: hints for coin collectors* (New York, 1890), 34-5.

VIII

GILT COPPER DUCAT TOKENS

The design of the Venetian gold ducat is clearly recognizable in certain gilt copper pieces frequently found either isolated or as ring-mounted charms in the Levant. Two such pieces are shown on PLATE XV, 1, 2. They are well struck, of good workmanship, but both figures and inscriptions are mere caricatures of the originals. On the obverse the central staff and exergual line are prominent; the figures of St. Mark and the doge are represented by plant- or flower-like ghosts of human figures. The inscription is $\Sigma\text{ID}\Omega\Gamma\text{NOCEN}\cdot\text{OV}\text{CH}\text{MEI}$, which is obviously a degraded $\text{ALOY.MOCEN S.M. VENETI}$; alongside the staff are the letters OCY . On the reverse the figure of Christ in the pointed oval has become a device resembling an inverted anchor; the inscription is $\cdot\text{DIOESIMIV}\text{O}\text{O}\cdot\cdot\text{A}\text{N}\text{IV}\text{E}\text{OATOV}$, in perfectly clear well-cut letters, defying interpretation.⁵⁹

A later and apparently final form of these tokens has the same obverse and reverse type and the same obverse legend, but with the reverse legend altered to $\text{JOANNES.ILLE. COQVVS. SUI. FILIIQUE}$ (PLATE XV, 3, 4). These tokens, which are of two sizes and are usually gilt, are reputed to have been struck by London merchants named John Cook and Sons in the nineteenth century for the East African trade.

With these shoddy tokens the long line of ducats, which flourished for over five hundred years as a "universal" coinage of high esteem, comes to an end.

⁵⁹ A specimen of this piece illustrated by C. F. Keary ("The Morphology of Coins," *NC*, 3rd series, VI (1886), p. 81 and Pl. V, 100) is attributed to north Africa, but a Levantine origin is more probable.

IX

DIES FOR DUCAT IMITATIONS

Interesting evidence regarding the places of origin of ducat imitations is furnished by dies which have been discovered and recorded from time to time. The first to be noted is a die described in the *Indian Antiquary* for 1873.⁶⁰ This die, which is of bronze, was found at Umreth, a town in the Kaira Zilla, north of Bombay, and after cleaning yielded the inked impression shown on PLATE XVI, 1. The figures are fairly close copies of the standard Venetian type; the inscriptions are blundered, but that of the obverse is recognizable as one of the doges named Alvise Mocenigo. The date of fabrication of the die is not known, but, from the name of the doge it must be of the eighteenth or nineteenth century.

The second die is described and illustrated in the *Numismatic Chronicle* for 1952,⁶¹ and an impression from it is shown on PLATE XVI, 2. In this the figures are of poor workmanship and the inscriptions somewhat blundered, but recognizable as those of Lodovico Manin, the last doge of Venice. The die was found in the region of the Persian Gulf.

The third die to be noted is in the possession of the American Numismatic Society, which secured it from a visitor who

⁶⁰ J. Burgess, "Discovery of dies," *Indian Antiquary*, II (1873), 213-14. The pair of dies was seized by the police in the house of a suspected receiver of stolen property, and was accompanied by another for striking counterfeit gold coins in the name of Shah Alam. The article notes the existence of a forged die in the Calcutta Mint museum used for making ducats of Giovanni III Corner (1709-22), and of a genuine (?) one for ducats of Lodovico Manin.

⁶¹ R. A. G. Carson, "Dies for an imitation zecchino," *NC*, 6th series, XII (1952), 113-14.

bought it in the bazaar at Damascus. The die, of bronze, is illustrated on PLATE XVI, 3 and an impression from it is shown on PLATE XVI, 4. The figures are of neat but barbaric workmanship; the inscriptions are meaningless, but obviously blundered from those of a ducat of Paolo Renier (1779–89). The similarity of this impression to certain of the imitations shown in PLATE XIII is quite close.

[These three dies are of the traditional medieval type, being simply bars or blocks of metal which in striking would be aligned by the eye of the workman without further mechanical aid. Two more elaborate pairs of dies are known to exist. One of them, found in Crete and now in the Bibliothèque Nationale, was published and illustrated by Philip Grierson in 1952.⁶² It consists of two blocks of iron into which steel dies had been fitted. The blocks were held in place, when a coin was being struck, by projecting iron pegs on the upper block fitting into corresponding holes in the lower one. In view of the good style of the coins which these dies would have produced, Mr. Grierson concluded that they were genuine instruments of the Venetian mint and were used for striking ducats of Alvise IV Mocenigo (1763–78). This opinion must be discarded, for a similar pair of dies is in the possession of Signor Tommaso Bertelè of Rome, who obtained it in the bazaar at Istanbul and sent a description and cast to Mr. Grierson for publication (PLATE XVI, 5). This pair of dies, which would strike ducats of the same doge, is of a slightly different pattern from the ones found in Crete, having four pegs instead of two, but was clearly intended to be used in the same way.]

⁶² "Pegged Venetian coin dies," *Ibid.*, 99–105.

KEY TO THE PLATES

The coins are ducats, and are in the ANS (Ives collection) unless the contrary is stated. In a few cases I have failed to trace the source of Dr. Ives' illustrations.

- I. 1. VENICE. Giovanni III Corner (1709-22). Ten-ducat piece. 34.85 g.
2. RHODES. Adrien de Wignacourt (1690-97). Four-ducat piece. 13.82 g.
- II. 1. VENICE. Giovanni Dandolo (1280-89). 3.50 g.
2. VENICE. Andrea Dandolo (1344-54). 3.50 g.
- III. 1. VENICE. Antonio Venier (1382-1400). 3.52 g.
2. VENICE. Andrea Vendramin (1476-78). 3.45 g.
- IV. 1. VENICE. Leonardo Loredan (1501-21). 3.49 g.
2. VENICE. Marcantonio Trevisan (1553-54). 3.50 g.
- V. 1. VENICE. Pasquale Cicogna (1585-95). 3.49 g. With Arabic counterstamp *صحيح*, *ṣaḥīḥ*, "genuine."
2. VENICE. Carlo Contarini (1655-56). 3.45 g.
- VI. 1. VENICE. Francesco Morosini (1688-94). 3.46 g.
2. VENICE. Emperor Francis II (1797-1805). 3.46 g.
- VII. 1. ROME. Senate. ANS (Scoville bequest). 3.51 g.
2. ROME. Senate. 3.49 g.
3. ROME. Senate. 3.50 g.
4. ROME. Senate. (with Condulmerio shield). 3.50 g.
- VIII. 1. GENOA. Mid 16th century. *CNI*, III, pl. X, 12 (former King of Italy's coll.). 3.40 g.
2. MANTUA. Ferdinand IV Gonzaga (1612-26). Venice, Museo Correr (Racc. Papadopoli, No. 4049). 3.78 g. (silver).
3. SAVOY. Amadeus VIII (1416-39). *CNI*, I, pl. IV, 17 (former King of Italy's Coll.). 3.50 g.
4. ROME. Paul II (1464-71). ANS (Scoville bequest). 3.48 g.
5. DOMBES. Anne Marie Louise de Montpensier (1650-93). 3.41 g.
6. ORANGE. William Henry (1650-72, 1679-86). 3.35 g.
7. FLORENCE. 1805. 3.45 g.
8. FLORENCE. Forgery of 1805 piece. British Museum. 3.49 g.

- IX. A. RHODES. Dieudonné de Gozon (1346–53). Venice, Museo Correr (Racc. Papadopoli, No. 15643). 3.51 g.
 B. RHODES. Antoine Fluvian (1421–37). Furse, p. 76 (from former King of Italy's Coll.).
 C. RHODES. Jacques de Milly (1454–61). Not located.
 D. RHODES. Pierre d'Aubusson (1476–1503). 3.50 g.
 E. RHODES. Émery d'Amboise (1503–12). 3.46 g.
- X. A. MALTA. Jean d'Homèdes (1536–53). 3.40 g.
 B. MALTA. Alofius de Wignacourt (1601–22). ANS (Scoville bequest). 3.37 g.
 C. MALTA. Antoine de Paule (1623–36). British Museum. 3.35 g.
 D. MALTA. Adrien de Wignacourt (1690–97). 3.45 g.
 E. MALTA. Antoine Manoël de Vilhena (1722–36). 3.42 g.
- XI. 1. CHIOS. Tommaso di Campofregoso (1415–21). 2.2 g. (*sic.*) Base gold.
 2. CHIOS. Filippo Maria Visconti (1421–36). 3.47 g. Base gold.
 3. CHIOS. Pietro di Campofregoso (1450–58). Gnechi sale cat., Part III (Frankfurt; Hamburger, 12 January 1903), no. 5134.
 4. CHIOS. Charles VII of France (1458–61). *Ibid.*, no. 5135.
 5. CHIOS. Leonardo Loredan, doge of Venice (1501–21). Martini sale cat., Part I (Lugano: R. Ratto, 30 January 1929), no. 830.
- XII. 1. (?) ACHAIA. Robert of Anjou (1346–64). Schlumberger, pl. XII, 34.
 2. MYTILENE. Giacomo Gattilusio (1376–96). Ruchat sale cat., Part I (Rome: Santamaria, 13 June 1921), no. 756.
 3. MYTILENE. Dorino Gattilusio (1400–49). Schlumberger, pl. XVI, 26.
 4. FOGLIA VECCHIA. Dorino Gattilusio (1400–49). *Ibid.*, pl. XVII, 6.
 5. PERA. Filippo Maria Visconti, duke of Milan (1421–36). *Ibid.*, pl. XVII, 21.
 6. PERA. Tommaso di Campofregoso, doge of Genoa (1436–42). *Ibid.*, pl. XVII, 22.
- XIII. ANONYMOUS LEVANTINE IMITATIONS.
 1. 3.47 g. 5. 2.95 g.
 2. 3.38 g. (silver) 6. 3.47 g.
 3. 3.35 g. 7. 3.44 g.
 4. 3.30 g. 8. ANS (from Cyprus). 3.75 g. Very pale gold.
- XIV. INDIAN IMITATIONS.
 1. BM. 1.86 g.
 2. 1.10 g. (silver)
 3. Oxford, Ashmolean. 1.91 g.
 4. BM. 1.32 g.

5. BM. 2.63 g.

6. 2.6 g.

7. 3.05 g.

XV. GILT COPPER DUCAT TOKENS.

1. 2.89 g.

2. 2.25 g.

3. 2.47 g.

4. 1.55 g.

XVI. DIES FOR DUCAT IMITATIONS.

1. *Indian Antiquary*, II (1873), 213.

2. See *NC*, 1952, p. 113.

3. ANS.

4. Impression of no. 3.

5. T. Bertelè coll.

PLATES

I



I



2

MULTIPLE DUCATS

II

Giovanni Dandolo
1280-89
Pietro Gradenigo
1289-1310
Marino Zorzi
1310-11
Giovanni Soranzo
1311-27



Obv. DVX Staff with flag. Flat cap on doge, no exergual line, large circular nimbus on Saint Mark.

Rev. Nine stars irregularly arranged, nimbus and feet project outside oval. DVCAT.

Francesco Dandolo
1328-1339
Bartolomeo Gradenigo
1339-42
Andrea Dandolo
1344-54
Marino Falier
1354-55
Giovanni Gradenigo
1355-56
Giovanni Dolfin
1356-61
Lorenzo Celsi
1361-65
Marco Corner
1365-67
Andrea Contarini
1367-82
Michele Morosini
1382



Rev. 9 stars uniformly arranged, 4 to left, 5 to right. (Some coins of Francesco Dandolo have the stars irregularly arranged, so regularity probably began during his reign.)

VENETIAN DUCATS, 1284-1382

IV

Leonardo Loredan
1501-21
Antonio Grimani
1521-23
Andrea Gritti
1523-39



Obv. Exergual line under figures.

Rev. Nimbus and feet entirely within oval. 9 or 10 stars, with one above book.

Pietro Lando
1539-45
Francesco Donà
1545-53
Marcantonio Trevisan
1553-54
Francesco Venier
1554-56
Lorenzo Priuli
1556-59
Gerolamo Priuli
1559-67
Pietro Loredan
1567-70
Alvise I Mocenigo
1570-77
Sebastiano Venier
1577-78
Nicolò da Ponte
1578-85



Obv. DVX. Roman lettering, only one hand on staff, small nimbus on Saint. Flag on staff reduced to pennant or absent.

Rev. Small nimbus on Saint. Inscription nearly or completely encircles oval. 12 stars.

VENETIAN DUCATS, 1501-85

Francesco Contarini
1623-24



Rev. 15-19 stars, one
below figure of Christ,

Domenico Contarini
1659-74



Rev. Sixteen stars, with
one above and one below
figure of Christ. In-
scription ends DVCA.

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VI

Nicolò Sagredo
1675-76
Alvise Contarini
1676-84
Marcantonio Giustinian
1684-88
Francesco Morosini
1688-94
Silvestro Valier
1694-1700
Alvise II Mocenigo
1700-09
Giovanni III Corner
1709-22
Alvise III Mocenigo
1722-32
Carlo Ruzzini
1732-35
Alvise Pisani
1735-41
Pietro Grimani
1741-52
Francesco Loredan
1752-62
Marco Foscarini
1762-63
Alvise IV Mocenigo
1763-78
Paolo Renier
1779-89
Lodovico Manin
1789-97
Francis II
1797-1805
Francis I
1815-35



Obv. Staff ends in cross

VENETIAN DUCATS, 1675-c. 1840

VII

1st period



S
P
E
T
R

S
E
N

ATOR·VRBIS

2nd period



S
·
P
E
T
R

N
E
S

ATOR·VRBIS

3rd period



S·P·E·T·R·V·S

N
E
S

ATOR·VRBIS

DUCATS OF THE ROMAN SENATE

VIII



1



2



3



4



5



6



7



8



OTHER WESTERN EUROPEAN IMITATIONS

GRAND MASTERS

An asterisk indicates those for whom ducats are known. The letters refer to the types employed.

- Hélien de Villeneuve (1319-46)
 *Dieudonné de Gozon (1346-53) A
 *Pierre de Cornillan (1354-55) A
 Roger de Pins (1355-65)
 Raymond de Béranger (1365-74)
 Robert de Juilliac (1374-76)
 Jean Ferdinand d'Hérédia
 (1376-96)
 Philibert de Naillac (1396-1421)
 *Antoine Fluvian (1421-37) B, C
 Jean de Lastic (1437-54)
 *Jacques de Milly (1454-61) C
 Pierre Raymond Zacosta (1461-67)
 *Jean Ursino (1467-76) D
 *Pierre d'Aubusson (1476-1503) D
 *Emery d'Amboise (1503-12) E
 Guy de Blanchefort (1512-13)
 *Fabrice del Carretto (1513-21) E
 *Philippe Villiers de l'Isle d'Adam
 (1521-34) E
 (1521-22 at Rhodes, 1530-34
 at Malta)



DUCATS OF RHODES

GRAND MASTERS

An asterisk indicates those for whom ducats are known. The letters refer to the types employed.

*Pierre del Ponte (1534-35) A, but without date

Didier de Saint Jaille (1535-36)

*Jean d'Homèdes (1536-53) A

Claude de la Sengle (1553-57)

*Jean de la Vallette-Parisot (1557-68) B

*Pierre del Monte (1568-72) B

*Jean de la Cassière (1572-81) B

*Hugues de Loubenx Verdalla (1582-95) B

*Martin Garzès (1596-1601) B

*Alofius de Wignacourt (1601-22) B

Ludovic Mendez de Vasconcellos (1622-23)

*Antoine de Paule (1623-36) C

*Jean Paul Lascaris-Castellar (1636-57) C

Martin de Redin (1657-60)

Annet de Clermont-Gessan (1660)

Raphael Cotoner (1660-63)

Nicolas Cotoner (1663-80)

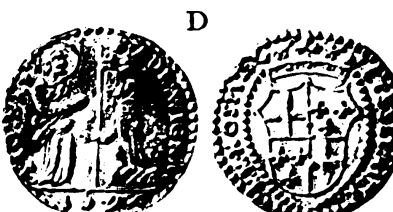
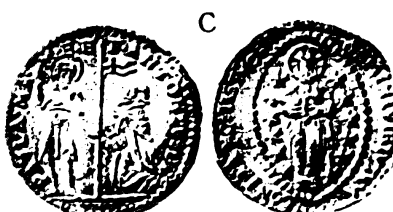
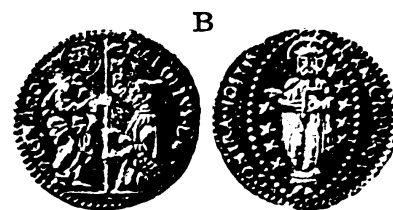
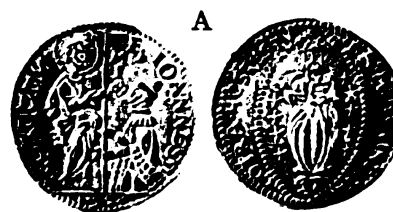
*Grégoire Caraffa (1680-90) D

*Adrien de Wignacourt (1690-97) D

*Raymond Perellos y Roccaful (1697-1720) E

*Marc Antoine Zondadari (1720-22) E

*Antoine Manoël de Vilhena (1722-36) E



DUCATS OF MALTA

Tommaso di Campofregoso
(1415-21)



1

Filippo Maria Visconti, duke of
Milan (1421-36)



2

Tommaso di Campofregoso (again,
1436-42)
Raffaele Adorno (1443-47)
Giano di Campofregoso (1447)
Lodovico di Campofregoso
(1447-50)
Pietro di Campofregoso (1450-58)



3

Charles VII of France as lord of
Genoa (1458-61)



4

Leonardo Loredan, doge of Venice
(1501-21). Ducat struck for Chios



5

DUCATS OF CHIOS

XII

Achaia

(?) Robert of Anjou (1346-64)



1

Mytilene under the Gattilusi

Giacomo Gattiluso (1376-96)
Francesco II Gattiluso
(1396-1400)



2

Dorino Gattiluso (1400-49)
Domenico Gattiluso (1449-59)
Niccolò Gattiluso (1459-62)



3

Foglia Vecchia

Dorino Gattiluso of Mytilene
(1400-49)



4

Pera

Filippo Maria Visconti
duke of Milan
(1421-36)



5

Tommaso de Campofregoso,
doge of Genoa
(1436-42)



6

DUCATS OF VARIOUS EASTERN MEDITERRANEAN MINTS



1



2



3



4



5



6



7



8

LEVANTINE IMITATIONS

XIV



1



2



3



4



5



6



7



INDIAN IMITATIONS



1



2



3



4

GILT COPPER DUCAT TOKENS



DIES FOR DUCAT IMITATIONS

CJ
35
119
no. 129

NUMISMATIC NOTES AND MONOGRAPHS

No. 129

CHEMICAL COMPOSITION OF PARTHIAN COINS

By EARLE R. CALEY



THE AMERICAN NUMISMATIC SOCIETY

NEW YORK

1955

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Chemical Composition of Parthian Coins

By EARLE R. CALEY



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I. INTRODUCTION

The chemical composition of Parthian coins should be just as interesting and significant to the numismatist as the chemical composition of other ancient coins, and perhaps more so, as the coins of the Parthian kings constitute the chief archaeological remains of their empire, whereas an abundance of other kinds of remains have survived most of the other chief empires of the past. Any information that may be gleaned from the chemical investigation of Parthian coins is not only a contribution to the obscure numismatic history of this empire, but may also be a contribution to its still more obscure economic history.

As a somewhat incidental part of a general investigation of the chemical composition of ancient objects, various Parthian coins have been analyzed in the author's laboratory at various times in the past fifteen years. Although the analyses are not very many in number they are fairly representative, and it seems worthwhile to summarize and publish them at this time.

If the amount of published information is a true index of what has been done, very little attention, indeed, has been previously paid to the composition of Parthian coins, and, as far as the author has been able to determine, no chemical analyses were made prior to those reported here. The present essay may be considered an original introduction to the subject, but, since it is only an introduction, the various conclusions and interpretations based on the analyses are not intended to be final. It is the hope of the author, however, that the present essay will serve as a sound foundation for any future investigations of the chemical composition of Parthian coins. The critical study of the relationship between the fineness and specific gravity of Parthian silver coins in the latter part of the essay should be of interest as indicating the reliability of estimations of the fineness of ancient silver coins in general from specific gravity measurements.

II. PREVIOUS STUDIES

Prior to the analyses here reported, only sixteen Parthian coins appear to have been investigated chemically in any way, and all these were silver coins that were tested by fire assay for their silver and gold content only. The results of these assays are shown in Table I. Unfortunately, there is no way to check the correctness of the attributions of these coins. However, the results indicate that the earliest coins contain the highest proportion of silver, and that later coins, leaving out of consideration the one late tetradrachm, contain moderately high amounts. Thus there is no indication of any serious or progressive debasement in this series of Parthian drachms such as occurs in the series of denarii of the Roman Empire. These results also indicate that individual coins of the same rulers differ considerably from each other in fineness. The proportions of gold in the coins, though high from the standpoint of modern silver coinage practice,

TABLE I
ASSAYS OF PARTHIAN SILVER COINS

No.	Ruler	Date	Fineness	
			Silver	Gold
1	Arsaces I (?)	250-248 (?) B.C.	946	
2	Mithradates I	171-138 (?) B.C.	923	2
3	Mithradates I	171-138 (?) B.C.	899	5
4	Mithradates I	171-138 (?) B.C.	892	2
5	Phraates II	138-128/127 B.C.	709	3
6	Artabanus II	88-77 B.C.	854	1
7	Artabanus II	88-77 B.C.	728	2
8	Tiradates II (?)	26 B.C.	611	2
9	Orodes II	4-6 (?) A.D.	798	2
10	Orodes II	4-6 (?) A.D.	622	3
11	Gotarzes	40/41-51 A.D.	805	3
12	Gotarzes	40/41-51 A.D.	755	2
13	Mithradates IV	130-147 (?) A.D.	749	4
14	Volagases III	185 A.D.	334	1
15	Volagases IV	191-207/208 A.D.	779	3
16	Artabanus V	213-227 (?) A.D.	746	4

are similar to those in many other types of ancient silver coins. The degree to which these results are in accord with the new results here presented will be apparent from some of the subsequent tables.

Notes to Table I

- a. No. 1 was assayed at the Prussian mint and the result was first published by A. von Rauch in *Zeitschrift für Numismatik*, 1 (1874), p. 37. This coin was attributed by von Rauch to Arsaces I, but the correctness of this attribution is very much in doubt, since it is uncertain that this ruler issued coins, and such specimens as have been attributed to him are very rare. Possibly the attribution was based on the single word ΑΡΣΑΚΟΥ on the coin, an inscription that occurs on the coins of Tiridates I (248/247–211/210 B.C.) and his son, Arsaces (210–191 B.C.). At any rate, this coin appears to be the earliest in the above series.
- b. The other coins were assayed at the Austrian mint and the results were first published by F. Imhoof-Blumer in his *Monnaies Grecques* (Amsterdam, 1883), p. 474. No. 13 is listed by Imhoof-Blumer as a coin of Mithradates V and No. 15 as a coin of Volagases VI, but the corrections of Hammer in his *Der Feingehalt der griechischen und römischen Münzen* (Diss. Tübingen, 1906), p. 87, are here adopted. The attributions and dates are in accord with those given by B. V. Head in *Historia Numorum* (Oxford, 1911), pp. 818–822. A question mark indicates some uncertainty in attribution or date.
- c. All these coins were drachms except No. 14 which was a tetradrachm. This coin was attributed by Imhoof-Blumer to Volagases IV, but since it bore the date 497 in the Seleucid Era, this places it in the reign of Volagases III according to the system of attribution here followed.

III. SOURCES AND IDENTIFICATION OF THE COINS

With the exception of most of the drachms of Orodes I, the coins for this investigation were purchased by the author from dealers here and abroad at various times. Nearly all the drachms of Orodes I came from a large hoard, part of which is now in the numismatic collection of Princeton University.

According to information kindly supplied by Dr. Louis C. West, Curator of Coins and Medals, Princeton University Library, this hoard, estimated to have contained about 600 coins, was dug up in a small village near Ahar, 75 miles northeast of Tabriz, Iran, and was unearthed by a native worker digging a foundation for a house in the village. The hoard was found at a depth of 8 to 10 feet in a pot of black earthenware, which was broken when the coins were found. The exact date of the discovery is not known with certainty, but it is believed to have been about November, 1923. Early in 1924 this entire hoard was brought to Dr. J. Christy Wilson, then of the American Mission, Tabriz, who purchased something less than half of it. The examples he selected were representative of all the different coins in the hoard. A high proportion of the coins were of Orodes I, the others being coins of near predecessors of Orodes. This selection of coins from the hoard was brought back to the United States by Dr. Wilson, who sold most of the coins to the Princeton University Library. The number thus sold is not known with certainty, but it was probably about 200. Another large part of this hoard was bought by a representative of the Near East Relief in Tabriz, and he sold it to a New York dealer, who in turn sold the coins to various collectors. This part of the hoard numbered over 200 coins. The remainder of the hoard was sold to various people in Iran. The largest intact lot of coins from the hoard, and apparently also the most representative one, is therefore at Princeton. According to figures given to the author about 18 years ago by Professor Shirley H. Weber, then of Princeton University, the lot at Princeton consisted at that time of 5 coins of Artabanus II, 2 of Phraates III, and 2 of either Phraates III or the Unknown King, all the remainder being coins of Orodes I, of which

there were 178. It is probable that some of those of Orodes had already been sold as duplicates. At the request of Professor Weber this lot of coins was cleaned electrolytically by the author in order to remove the spots and patches of greenish corrosion products that were present on all of them. All the coins prior to Orodes I and 31 of the best of this ruler were then placed in the collection of the university and the remainder were classed as duplicates. Several months after these coins were cleaned the author determined the specific gravities of 144 of these duplicates, and 10 of the poorest ones were given to him for chemical analysis.

The British Museum *Catalogue of the Coins of Parthia* (London, 1903), and Head's *Historia Numorum* (London, 1911), were used as the principal authorities for the identification of all the coins that were analyzed, due consideration being given to the uncertainties that still exists as to the proper attribution and dating of certain of the coins.

IV. ANALYSTS AND METHODS OF ANALYSIS

The author analyzed 6 of the drachms of Orodes I that came from the hoard; all the other silver and bronze Parthian coins were analyzed under his direction by Mr. Charles D. Oviatt, at present Professor of Chemistry at Tarkio College, Tarkio, Missouri. The work of Mr. Oviatt was in part supported by a grant from the Graduate School of The Ohio State University. For purposes of comparison, analyses of a few other ancient coins were made by Mr. Wallace H. Deebel, a graduate student in chemistry at The Ohio State University, under the direction of the author.

Before being analyzed, the specific gravity of each of the silver coins was measured by the method of Archimedes. The coins were next filed smooth and the specific gravity of each blank was also measured by the same method. The blanks were then divided into samples of suitable size for analysis. The specific gravities of the bronze coins were not measured, though samples for analysis were prepared in the same way.

For the analysis of the silver coins, accurately weighed samples of about a gram were treated with nitric acid for the separation of the gold and tin from the other metals. The ignited and weighed residue from the nitric acid treatment was extracted with cold, dilute aqua regia to dissolve the gold, and the resultant solution was diluted and treated with either ferrous sulfate or oxalic acid to precipitate the gold. This gold was then collected on filter paper, ignited, and weighed. By subtracting the weight of the gold from the weight of the residue, the weight of stannic oxide was obtained, from which the weight of the tin was calculated. In some analyses, as a check, the weight of the stannic oxide was also measured directly. The filtrate from the separation of the gold and tin was treated with hydrochloric acid to precipitate silver as the chloride. The silver chloride was collected in a weighed filter crucible, and after drying and weighing, the weight of the added silver chloride was found, from which the weight of silver was calculated. The filtrate from the separation of the silver was treated with sulfuric acid, and the solution was evaporated until

fumes of sulfur trioxide appeared. After cooling, the residue was treated with water, and the lead sulfate was collected in a filter crucible, dried, and weighed. Copper was determined by electrolysis in the filtrate from the separation of the lead, and from the small amount of lead dioxide deposited on the anode and the previous weight of lead sulfate, the total lead content was found. The filtrate from the separation of the lead and copper was evaporated to small volume and treated with ammonium hydroxide solution to precipitate the iron. The precipitate was collected on filter paper, and ignited and weighed in a crucible, and the iron content was calculated from the weight of the precipitate. In the filtrate from the separation of the iron, nickel was precipitated with dimethylglyoxime. The precipitate was collected in a glass filter crucible, dried, and weighed, and from the weight of this precipitate the nickel content was calculated. The filtrate from the separation of the nickel was treated with nitric acid to remove organic matter and examined for the presence of zinc by adding phosphate. Zinc was found in only one coin, and for this determination the precipitate of zinc ammonium phosphate was collected in a filter crucible, dried, and weighed, the amount of zinc being calculated from the weight of the precipitate. The coins were also examined for the presence of arsenic and sulfur, but only negative results were obtained.

The procedure for the analysis of the bronze coins was similar except that the steps for the determination of gold and silver were omitted, neither being present in appreciable amount in any of these coins. Sulfur was found to be absent, but arsenic was present in all but one. For the determination of the arsenic a sample was first dissolved in concentrated nitric acid, the solution was evaporated to dryness, and the residue was baked to decompose the nitrates. This baked residue was dissolved in concentrated hydrochloric acid, and the hydrochloric acid solution, after adding an excess of ferrous sulfate, was distilled. In the distillate, properly diluted, the arsenic was precipitated as arsenious sulfide with hydrogen sulfide. The precipitate was collected in a filter crucible, washed first with water, next with carbon disulfide, and finally with ethyl alcohol. It was then dried and weighed, and the amount of arsenic was calculated from the weight of the dried precipitate.

This outline of the analytical scheme, from which many manipulative details have been omitted for the sake of brevity, is intended mainly to indicate the nature of the methods so that their validity may be judged. Where sufficient material was available, duplicate determinations of each metal were made, and the results were averaged to give the figures shown in the several tables. The closeness of the duplicate determinations to each other, and the closeness of the summations to 100% as shown in these tables, is a good indication, at least, of the generally satisfactory nature of these analytical methods and of the experimental manipulations.

V. RESULTS OF CHEMICAL ANALYSES

The results of the analyses of twenty-two drachms are shown in Table II. On comparing the percentages of silver given in this table with the figures for the fineness of Parthian drachms given in Table I some interesting similarities and differences are apparent. Both groups of results indicate that only in the early coins of this Parthian series is the silver content of the coins really high, and that in most later coins it falls considerably below this high standard. Though the figures of Table I indicate that it does not fall below 60%, the new results of Table II show clearly that it may fall nearly as low as 40%.

TABLE II

ANALYSES OF PARTHIAN DRACHMS

No.	Silver %	Gold %	Copper %	Tin %	Lead %	Iron %	Nickel %	Zinc %	Total %
1	94.17	0.11	5.02	0.26	0.37	0.05	0.05	none	100.03
2	92.86	0.30	5.81	0.08	0.85	0.04	0.03	none	99.97
3	67.88	0.27	29.33	1.54	0.92	0.04	none	none	99.98
4	90.57	0.27	8.36	0.08	0.63	0.03	none	none	99.94
5	75.57	0.32	22.64	0.66	0.79	trace	0.02	none	100.00
6	74.80	0.29	23.80	0.01	0.87	0.05	0.01	trace	99.83
7	74.37	0.37	23.94	0.41	0.84	0.03	0.04	none	100.00
8	74.17	0.33	23.54	0.43	1.40	trace	0.02	none	99.89
9	69.77	0.42	27.74	0.75	1.15	0.02	0.02	0.10	99.97
10	66.83	0.38	31.28	0.47	1.01	none	0.02	trace	99.99
11	65.16	0.28	32.15	1.06	1.23	0.02	0.04	none	99.94
12	58.19	0.53	37.29	1.26	2.65	0.02	0.03	none	99.97
13	50.97	0.35	43.97	2.35	2.34	0.03	0.02	none	100.03
14	47.29	0.43	49.10	1.83	1.41	trace	0.03	none	100.09
15	46.35	0.18	49.08	3.56	0.61	trace	0.05	none	99.83
16	43.10	0.33	52.26	2.64	1.51	0.05	0.04	none	99.93
17	41.84	0.34	51.92	3.44	2.48	0.04	0.02	none	100.08
18	76.87	0.38	21.75	0.34	0.64	0.04	none	none	100.02
19	74.30	0.27	24.42	0.27	0.54	0.07	none	none	99.87
20	73.33	0.35	24.16	1.36	0.86	0.01	none	none	100.07
21	77.00	0.46	19.73	1.28	0.86	trace	0.03	none	99.36
22	52.05	0.21	44.52	1.16	1.41	none	0.03	none	99.38

Attributions and Dates

Nos. 1 and 2. Mithradates I. 171–138 (?) B.C.

No. 3. Sinatruces. 77–70 B.C.

No. 4. Phraates III (?). 70–57 B.C.

Nos. 5 to 17 inclusive. Orodes I. 57–38/37 B.C.

All except Nos. 5, 7, and 10 were from the hoard.

No. 18. Gotarzes. 40/41–51 A.D.

No. 19. Vardanes I. 41/42–45 A.D.

No. 20. Volagases II. 77/78–146/147 A.D.

No. 21. Mithradates IV. 130–147 (?) A.D.

No. 22. Volagases V. 207/208–221/222 (?) A.D.

These new results are in direct contradiction to some general statements that have been made in regard to the fineness of the Parthian silver coinage. For example, Burns¹ states that the high initial standard continued with little alteration down to the end of the Parthian Empire in 227 A.D. However, as far as the present results show, the issue of really base drachms was confined to the reign of a single ruler, Orodes I of the period 57–38/37 B.C. It will be seen that in four of the coins of this ruler that were analyzed the silver content is below 50%. Their average silver content is only 60.65%. This is in marked contrast to the high silver content of 90.57% in a coin (No. 4 of Table II) of an immediate predecessor of Orodes I and to the generally high silver content of the coins of all his predecessors. Evidently a marked debasement of the drachm occurred during the reign of this ruler. The fact that the silver content of the coins of Orodes I is spread over a considerable range is not only a sign of debasement but probably also a sign of progressive debasement during his reign. It is obvious that when no debasement occurs during the reign of a ruler his individual coins selected at random will not only be of high standard but will differ little from each other in fineness, but that if debasement of the coinage begins and continues during a reign such individual coins will differ considerably from each other in silver content. Some illustrative data are shown in Table III. This table is derived from Tables I and II, and shows the range of silver content and average silver content of all Parthian drachms of which two or more of a given ruler have now been assayed or analyzed. It is not

¹ Burns, A. R., *Money and Monetary Policy in Early Times* (New York, 1927), p. 164.

claimed that these figures are very reliable since so few individual coins of each ruler have been investigated. The data based upon only two determinations are especially open to question. However, these are the only such figures possible at present, and they at least appear to give significant indications. It will be seen that the range in the percentages of silver in the five coins of Mithradates I is only 5%, whereas in the 13 coins of Orodes I it is nearly 34%. Then in the 3 coins of Gotarzes the range is again only 5%, with the coins of two of the other rulers in intermediate positions. In the group as a whole a rough inverse relationship exists between range and fineness. Apparently the debasement of the coinage during the reign of Orodes I was followed by a considerable improvement during the reigns of the

TABLE III

RANGE OF SILVER CONTENT AND AVERAGE SILVER CONTENT
OF DRACHMS OF CERTAIN PARTHIAN RULERS

<i>Ruler</i>	<i>Date</i>	<i>No. of Coins</i>	<i>Range in Silver Content %</i>	<i>Average Silver Content %</i>
Mithradates I	[†] 171-138 (?) B.C.	5	5.0	91.7
Artabanus II	88-77 B.C.	2	12.6	79.1
Orodes I	57-38/37 B.C.	13	33.7	60.7
Orodes II	4-6 (?) A.D.	2	17.6	71.0
Gotarzes	40/41-51 A.D.	3	5.0	77.6
Mithradates IV	130-147 (?) A.D.	2	2.1	76.0

succeeding rulers, though the original high standard was never again restored. The measurements of the specific gravities of 134 additional drachms of Orodes I given in the latter part of this essay confirm the results of these analyses as showing that serious debasement occurred during the reign of this ruler. Estimations of fineness based on these measurements indicate that the range in silver content is actually somewhat greater than that shown by these analyses.

The percentages of gold shown in Table II are in approximate agreement with the fineness figures of Table I. In the analyses of Table II the average percentage of gold is 0.33, and in the assays of Table I the average gold content in terms of percentage is 0.25. There

is a greater discrepancy in the ratios of gold to silver in the results in the two tables, but this lack of agreement may be due to the difference in the methods of determining the gold. It seems likely that the present results are more accurate. As compared to those in modern silver coins, the proportions of gold in Parthian drachms are very high indeed, but such relatively high proportions of gold are characteristic of ancient silver in general. The gold in these Parthian coins was apparently present as a mere fortuitous impurity that accompanied the silver, and its proportion varied considerably in accordance with the source of the silver and the accidental variations in the metallurgical operations. It seems improbable that ancient metallurgists had any means of removing gold present as impurity in silver, and it is doubtful that they were even aware that their silver contained gold as an impurity.

As the figures of Table II show, copper is the main alloying component in the metal of Parthian drachms. That it was introduced into the coinage alloy as the pure metal is very improbable as will appear from a consideration of the proportions of tin and lead in these coins.

Though the percentages of tin are not high numerically, being above 3% in only 2 coins, they are nevertheless very high for ancient silver. They are generally higher in the debased coins of Orodes I than in the other drachms that were analyzed, especially the earlier ones of high silver content. Tin, when not entirely absent, is usually present in ancient coinage silver to the extent of only a few hundredths or tenths of a percent. In a series of 16 ancient Greek silver coins analyzed by Bibra,² 3 were found to contain a trace of tin, the others none, and in a series of 22 Roman Imperial silver coins, many of them debased, which were analyzed by this same investigator, tin either was absent or was present in a mere trace in 11, and in the others the highest proportion found was 0.71% and the average was only 0.13%. The analyses in Table IV show his results on coins having about the same range of silver content as the drachms of Orodes I. According to the analyses of Bibra, tin is likely to be entirely absent from coins of very high silver content. The first two analyses listed in

² Bibra, E. von, *Ueber alte Eisen- und Silber-Funde* (Nürnberg and Leipzig, 1873), pp. 37, 40, 41.

Table V are illustrative of his results. This absence of tin appears to be confirmed by later analyses of such coins by Elam.⁸ These analyses are the last four cited in Table V. It is not certain that this analyst actually sought for the presence of tin in these coins, but if it had been present there is small likelihood that it could have escaped notice. The absence of tin from all such coins is what might be expected from its usual absence from deposits of silver ores. In general, then, tin is not normally associated with the silver of ancient coinage alloys, and there is no reason to believe that the Parthian coinage alloys were exceptional in this respect. It seems very probable, therefore, that most of the tin in the Parthian alloys was introduced along with the copper.

Similarly, the percentages of lead shown in Table II, especially in the coins of Orodes I, are unusually high for ancient coinage silver, as may be seen by comparing these percentages with those shown in Tables IV and V. All these percentages are further compared in Table VI, where it will be seen to what degree the proportions of lead in the drachms of Orodes I are abnormally high. Evidently a fairly constant small proportion of lead is almost always present in ancient fine silver, apparently as a residue from the imperfect cupellation of argentiferous lead, but the proportions of lead in the debased drachms of Orodes I are so abnormally high that it seems necessary to conclude that only part of this lead was introduced into the alloy along with the silver and that the rest was introduced along with the copper.

TABLE IV

ANALYSES OF GREEK AND ROMAN SILVER COINS SIMILAR
TO THE COINS OF ORODES I IN FINENESS

<i>Silver</i>	<i>Gold</i>	<i>Copper</i>	<i>Tin</i>	<i>Lead</i>	<i>Iron</i>	<i>Nickel</i>
%	%	%	%	%	%	%
73.96	0.25	23.94	none	1.35	trace	none
56.76	1.81	40.63	none	0.75	0.23	trace
54.92	0.15	43.80	0.20	0.75	0.11	0.07
43.97	0.10	55.26	0.21	0.31	trace	0.15
43.41	0.72	54.69	none	trace	0.97	0.21
40.66	0.17	58.70	0.10	0.13	0.24	none

⁸ Elam, C. F., *Journal of the Institute of Metals*, XLV (1931), p. 60.

TABLE V

ANALYSES OF GREEK SILVER COINS OF VERY HIGH FINENESS

<i>Silver</i> %	<i>Gold</i> %	<i>Copper</i> %	<i>Tin</i> %	<i>Lead</i> %	<i>Iron</i> %	<i>Nickel</i> %
99.48	trace	0.31	none	trace	0.21	none
99.10	trace	none	none	0.85	0.05	none
99.40	trace	none		0.46	trace	none
99.19	0.34	none		0.13	trace	none
99.09	trace	none		0.40	trace	none
99.07	trace	trace		0.43	trace	none

TABLE VI

COMPARISON OF DRACHMS OF ORODES I WITH EARLIER PARTHIAN DRACHMS AND WITH CERTAIN GREEK AND ROMAN COINS IN RESPECT TO SILVER CONTENT, LEAD CONTENT, AND RATIO OF LEAD CONTENT TO SILVER CONTENT

<i>Group</i>	<i>Silver</i> %	<i>Lead</i> %	<i>Ratio of Lead to Silver</i>
Parthian Drachms	Max. = 94.17	Max. = 0.92	Max. = 0.014
Prior to Orodes I	Min. = 67.88	Min. = 0.37	Min. = 0.004
	Av. = 86.37	Av. = 0.69	Av. = 0.008
Drachms of Orodes I	Max. = 75.57	Max. = 2.65	Max. = 0.059
	Min. = 41.84	Min. = 0.61	Min. = 0.011
	Av. = 60.65	Av. = 1.38	Av. = 0.023
Greek and Roman	Max. = 73.96	Max. = 1.85	Max. = 0.025
Coins of Similar	Min. = 40.66	Min. = trace	Min. = 0.000
Fineness	Av. = 52.28	Av. = 0.63	Av. = 0.010
Greek Coins of Very	Max. = 99.48	Max. = 0.85	Max. = 0.009
High Fineness	Min. = 99.07	Min. = trace	Min. = 0.000
	Av. = 99.22	Av. = 0.38	Av. = 0.004

The small percentages of iron shown in the analyses of Table II are probably of little significance, as iron is almost a universal accidental impurity in ancient metals and alloys. However, as shown by the analyses of Table V, the iron content of ancient silver coins of very high fineness is usually very small, so that it might well be that the noticeably larger proportions found in these Parthian drachms were introduced into the alloys along with the copper rather than with the silver. It is still more likely that the small proportions of

nickel shown in the analyses of Table II were introduced with the copper rather than with the silver. In these analyses nickel is invariably present in coins of very high copper content (over 30%) but absent from nearly 40% of the others. Furthermore, the analyses of Table V indicate that nickel is not normally associated with ancient silver, and this same lack of association is apparent from other analyses of ancient silver coins of high fineness. The zinc found in one coin in small proportion and the trace found in two others is in all probability a mere accidental impurity that was introduced along with the copper. Neither arsenic nor sulfur in weighable amounts was found in any of these coins.

The results of the analyses of 7 tetradrachms are shown in Table VII. The most striking difference between these results and the results of the analyses of the drachms shown in Table II is the much lower range of silver content of the tetradrachms. Unfortunately, no tetradrachms prior to the reign of Phraates IV were available for analysis, so that no comparison can yet be made between earlier tetradrachms and drachms as to silver content. It may be that early tetradrachms had a silver content similar to that of early drachms, but it is certain that later tetradrachms had a much lower silver content in general than drachms of the same period. As shown in Table VII, the proportions of silver in the tetradrachms that were analyzed, with the exception of the one tetradrachm of Phraates IV, are all below 50%, and in this one exception the proportion is just slightly over 50%. On the basis of these analyses the alloy used for late tetradrachms must be classed as billon. It is interesting by way of confirmation that the

TABLE VII

ANALYSES OF PARTHIAN TETRADRACHMS

No.	Silver %	Gold %	Copper %	Tin %	Lead %	Iron %	Nickel %	Zinc %	Total %
1	52.24	0.24	46.40	0.08	0.80	0.07	0.04	trace	99.87
2	43.32	0.22	53.11	0.25	0.33	0.06	0.02	none	97.31
3	46.48	0.30	48.82	none	0.33	0.04	none	none	95.97
4	41.70	0.23	57.18	0.08	0.27	0.05	0.05	none	99.56
5	39.80	0.32	58.51	0.58	0.57	0.05	0.07	none	99.90
6	28.29	0.15	68.00	0.28	0.52	none	0.19	none	97.43
7	24.44	none	74.41	0.18	0.19	0.02	0.35	none	99.59

Attributions and Dates

- No. 1. Phraates IV. 38/37–3/2 B.C. Not dated within reign.
- No. 2. Gotarzes. 40/41–51 A.D. Date = 46/47 A.D.
- No. 3. Gotarzes. 40/41–51 A.D. Date = 48/49 A.D.
- No. 4. Gotarzes. 40/41–51 A.D. Date illegible.
- No. 5. Pacorus II. 77/78–109/110 (?) A.D. Date = 79/80 A.D.
- No. 6. Volagases III. 147/148–191 A.D. Date illegible.
- No. 7. Volagases IV. 191–207/208 A.D. Date = 198/199 A.D.

very low silver content of 28.29% found by chemical analysis in a tetradrachm of Volagases III agrees fairly well with the result of the assay of one of this same ruler given in Table I. From the results in Table VII it seems evident that the silver content of the late Parthian tetradrachms decreased progressively with time, which does not appear to be true for the drachms of the same period.

The average proportion of gold found to be present in these tetradrachms is 0.21% as compared with the average of 0.33% for all the drachms of Table II and the same figure of 0.33% for the 5 latest drachms. However, since the gold is in all probability associated wholly with the silver it is better to make a comparison between the ratios of the proportions of gold to silver in the coins of the two denominations. The average of the ratios of gold to silver in the tetradrachms that were analyzed is 0.0050, in all the drachms, 0.0052, and in the 5 latest drachms, 0.0047. The closeness of these ratios shows that the original silver metal that entered into the alloys of the coins of the two denominations had about the same gold content on the average, and this indicates that it was of about the same quality.

Copper is the chief alloying component in the metal of Parthian tetradrachms just as it is in the metal of the drachms, but the lower proportions of tin and lead in the tetradrachms indicate that the copper was introduced into the alloy in a relatively pure state and not in the form of bronze. The average proportion of tin in the tetradrachms that were analyzed is only 0.21% as compared to the average of 1.15% for all the drachms and 0.88% for the 5 latest drachms. The differences in the percentages of lead and in the ratios of lead to silver are shown in Table VIII, where it will be seen that both the percentages and the ratios are lower in the tetradrachms than in the drachms. The full significance of these figures is shown in detail later

in the discussion of the theory of the debasement of Parthian silver coins. No significant difference exists in the proportions of iron in the tetradrachms and the drachms, and this is what would be expected from its presence as a mere accidental impurity. Though the proportions of nickel in the tetradrachms of higher fineness (Nos. 1-4 on Table VII) are similar to those in the drachms, the proportion of this metal in the other tetradrachms is much higher, particularly in the last two. This is further indication that the nickel in Parthian silver coinage alloys is associated with the copper.

It will be noted from Table VII that the summations of the individual percentages obtained on the analysis of the tetradrachms are generally lower than the summations of the individual percentages for the drachms as shown in Table II. In fact, the summations of the analytical figures for three of the tetradrachms does not even reach 99%. This is because of the presence of certain nonmetallic elements, namely, chlorine and oxygen, that were not determined by the analyst. These were present in the form of certain corrosion products, principally silver chloride and cuprous oxide, distributed throughout the metal of these coins. It might well be expected that corrosion would have proceeded to a greater extent in the tetradrachms than in the drachms because of the general difference in fineness. However, this does not account for the fact that the summations for certain tetradrachms (Nos. 2 and 3 of Table VII) are much lower than the summations for certain drachms (Nos. 14 to 17 of Table II) of about the same fineness. The metal of the tetradrachms was visibly less homogeneous than that of the drachms, which would account for the greater degree of corrosion. This lack of homogeneity was shown also by the poorer agreement of the duplicate determinations in the course of the analysis of the tetradrachms. Possibly this observed lack of homogeneity was simply the result of a greater degree of corrosion, but it seems more probable that it was due to an original lack of homogeneity in the metal of the tetradrachms. Possibly this lack of homogeneity in the metal was due to a lower degree of technical skill exercised in minting the tetradrachms or because it was less easy to form homogeneous flans of large size. At any rate there is a considerable difference in the homogeneity of the coins of the two denominations, which at least suggests that they may have been struck at different mints.

TABLE VIII

COMPARISON OF DRACHMS WITH TETRADRACHMS IN RESPECT TO SILVER CONTENT, LEAD CONTENT, AND RATIO OF LEAD CONTENT TO SILVER CONTENT

<i>Group</i>	<i>Silver</i> %	<i>Lead</i> %	<i>Ratio of Lead</i> <i>to Silver</i>
All Drachms	Max. = 94.17 Min. = 41.84 Av. = 67.61	Max. = 2.65 Min. = 0.37 Av. = 1.14	Max. = 0.059 Min. = 0.004 Av. = 0.019
Drachms After Orodes I	Max. = 77.00 Min. = 52.05 Av. = 70.71	Max. = 1.41 Min. = 0.54 Av. = 0.86	Max. = 0.027 Min. = 0.007 Av. = 0.013
Tetradrachms	Max. = 52.24 Min. = 24.24 Av. = 39.47	Max. = 0.80 Min. = 0.19 Av. = 0.43	Max. = 0.018 Min. = 0.006 Av. = 0.011

The results of the analysis of 12 bronze coins are shown in Table IX. These are apparently the first analyses of any kind of a Parthian bronze object that have been reported. It will be seen that the 2 earliest coins are very similar to each other in composition, and that the 2 coins of Orodes I are also very similar to each other. Larger differences exist between the compositions of the 2 coins of Sinatruces, but they are similar to each other in the proportions of lead they contain, and this clearly groups them together as distinct from the earlier and later coins. Of the 4 coins of Gotarzes, 3 are similar to each other in composition, and all of them are distinctly different from the earlier coins. The 2 very late coins of Artabanus V differ radically in composition. With the exception of these, the bronze coins issued in the same reign have a certain similarity in composition which would seem to indicate that some degree of control and standardization was exercised in the preparation of even the bronze coinage alloys. Possibly the coins of Artabanus V were struck under conditions that precluded any exercise of choice in the selection of the metal for the bronze coins. Because of this possibility, the composition of these coins will not be further considered in the discussion that follows.

TABLE IX

ANALYSES OF PARTHIAN BRONZE COINS

No.	Copper %	Tin %	Lead %	Silver %	Iron %	Nickel %	Arsenic %	Total %
1	88.64	6.72	3.88	none	0.15	0.07	0.26	99.72
2	89.54	6.97	3.18	none	0.09	0.08	0.11	99.97
3	88.31	4.71	6.60	none	0.08	0.18	0.05	99.94
4	83.90	7.24	8.54	none	0.04	0.07	none	99.79
5	82.19	5.17	12.03	none	0.08	0.10	0.24	99.81
6	80.69	6.08	12.65	none	0.04	0.08	0.21	99.79
7	86.93	2.92	9.87	none	none	0.09		99.81
8	73.74	6.42	19.77	none	none	0.07		100.00
9	73.12	5.48	19.98	none	0.04	0.09		98.71
10	74.35	4.29	21.06	trace	none	0.08		99.78
11	83.59	11.33	3.56	trace	0.03	0.05		98.56
12	67.79	7.43	23.50	trace	none	0.07		98.79

Attributions and Dates

No. 1. Mithradates I. 171-138 (?) B.C.

No. 2. Mithradates II. 123-88 B.C.

Nos. 3 and 4. Sinatruces. 77-70 B.C.

Nos. 5 and 6. Orodes I. 57-38/37 B.C.

Nos. 7 to 10 inclusive. Gotarzes. 40/41-51 A.D.

Nos. 11 and 12. Artabanus V. 213-227 (?) A.D.

Though these coins viewed as a whole are not very different in composition, except in lead content, this one difference is very marked. The relationships of the proportions of the main components of the alloys to each other are perhaps more readily apparent from the ratios of the percentages, shown in Table X, than from the percentages themselves. For the coins of Sinatruces, Orodes I, and Gotarzes these ratios were calculated from the average percentage figures for each group. It will be seen that the ratios of the components are very similar in the two earliest coins, and that in the series as a whole there is little difference in the ratio of tin content to copper content. The most striking and significant difference is the progressive increase, beginning with the coins of Sinatruces, in the ratios of lead content to copper content and of lead content to tin content. This same sort of chronological change in these ratios, with the ratio of tin content to copper content remaining relatively constant, has

2*

been previously observed in various series of Greek bronze coins, and has been explained as being the result of the remelting of worn bronze coins of previous issue with lead in order to obtain metal for the issue of new coins.⁴ However, the lead content of these Parthian coins is generally lower than that of contemporaneous bronze coins issued elsewhere in the ancient world, even in localities near Parthia. This is illustrated by the analyses listed in Table XI of a series of coins struck in Syria.⁵ In this one respect, at least, Parthian bronze coins have a composition that is distinctive.

TABLE X

RATIOS OF MAIN COMPONENTS IN PARTHIAN BRONZE COINS

<i>Period</i>	<i>Ratio of Tin to Copper</i>	<i>Ratio of Lead to Copper</i>	<i>Ratio of Lead to Tin</i>
171-138 (?) B.C.	0.076	0.044	0.58
123-88 B.C.	0.078	0.036	0.46
77-70 B.C.	0.070	0.088	1.29
57-38/37 B.C.	0.069	0.152	2.20
40/41-51 A.D.	0.063	0.235	3.71

TABLE XI

ANALYSES OF SYRIAN BRONZE COINS

<i>No.</i>	<i>Copper %</i>	<i>Tin %</i>	<i>Lead %</i>	<i>Iron %</i>	<i>Nickel %</i>	<i>Zinc %</i>	<i>Arsenic %</i>	<i>Sulfur %</i>	<i>Total %</i>
1	88.72	8.54	2.56	0.11	0.04	none	0.04	0.02	100.03
2	90.80	6.52	2.25	0.29	0.02	none	0.02	0.01	99.91
3	80.12	6.18	13.12	0.01	0.03	0.05	0.26	0.17	99.94
4	80.84	5.94	11.84	0.01	0.07	0.03	1.32	none	100.05
5	64.32	4.07	31.70	0.01	none	none	trace	0.01	100.11
6	67.13	7.62	24.90	0.14	0.02	0.01	0.10	none	99.92

Attributions and Dates

No. 1. Antiochus II. 261-246 B.C.

No. 2. Antiochus III. 222-187 B.C.

No. 3. Seleucus IV. 187-175 B.C.

No. 4. Demetrius II. 146-138 B.C.

No. 5. Antiochus VIII. 121 B.C.

No. 6. Antiochus VIII. 114 B.C.

⁴ Caley, E. R., *The Composition of Ancient Greek Bronze Coins* (Philadelphia, 1939).

⁵ From Table XVIII, pp. 92-93, of the work cited in Reference 4.

In view of the apparently systematic chronological increase in the lead content of Parthian bronze coins, there is a distinct possibility that such coins now of uncertain or unknown attribution could be roughly dated by means of chemical analysis, and thus be ascribed to the reigns of certain rulers. In order to do this, however, it would be necessary to make many more analyses of coins of known attribution so as to provide a reliable scale of reference. Furthermore, it would probably not be sufficient to analyze one unknown specimen, but as many as possible so that a reliable average figure would be obtained for comparison with the established averages for already attributed coins.

The percentages of the various impurities listed in Table IX are similar to those generally found in ancient coinage bronze. The nickel content is noticeably higher than in most ancient coinage bronze of the same period, and this may be of some significance as a distinctive characteristic. Though there appears to be some systematic variation in the arsenic content from one reign to another, this is probably fortuitous, as the arsenic content of ancient coinage bronze, like the iron content, usually varies in an erratic manner, thus indicating that both are mere accidental impurities. Arsenic was not determined in the last 6 coins because their small weight did not provide a sufficient sample. The low summations of Nos. 9 and 11 must in part, at least, be ascribed to the presence of oxygen, as these coins were noticeably corroded internally.

VI. THEORY OF THE DEBASEMENT OF THE DRACHMS OF ORODES I

The analytical results of Table II show clearly that some, at least, of the drachms of Orodes I were debased. In the discussion of these analytical results it was shown that part of the lead and virtually all the tin, iron, and nickel were associated with the copper and that these metals were in all probability introduced into the coins along with the copper. Such a mixture in the proportions indicated by the analytical figures would constitute a bronze. Consequently, it may be inferred that the alloy for the debased drachms of Orodes I was manufactured by alloying silver of good quality with bronze. Moreover, the composition of this bronze could be calculated from the figures of Table II providing the composition of this silver were known. Though there seems to be no way to find the exact composition of this silver, certain likely assumptions as to its composition may be postulated. These are:

- A. That it was fine silver of the highest quality known in the ancient period, and that its composition was about the average of the analyses listed in Table V.
- B. That it was Parthian coinage silver of high quality obtained by melting down worn coins of earlier reigns, and that its composition was about the average of Coins 1, 2, and 4 of Table II.
- C. That it was Parthian coinage silver of high quality produced by melting down coins of the reign immediately preceding that of Orodes I, and that its composition was about that of Coin 4 of Table II.

On the basis of each of these three assumptions the composition of of the bronze used in producing the alloy for a typical debased drachm of Orodes I (i.e. No. 13 of Table II) may then be calculated in the following way.

On Assumption A. The average silver and gold content of the fine silver coins of Table V is 99.32%. Gold is counted with the silver in all these calculations since the two are associated. The average

lead content of these coins is 0.38%. Therefore the proportion of this lead in terms of per cent that would have entered into the alloy of Coin 13 by the use of such silver is given by the expression:

$$\frac{50.97 + 0.35}{99.32} \times 0.38 = 0.20\%$$

This figure is then subtracted from the 2.34% of lead found by analysis in Coin 13 to give 2.14% as the amount of lead introduced along with the copper. Because of the high purity of the silver, the percentages of the other metals in Coin 13 remain unaffected, so that the proportions of the components of the bronze are given by the following percentages:

Copper	=	43.97
Tin	=	2.35
Lead	=	2.14
Iron	=	0.03
Nickel	=	0.02
Total	=	48.51

These figures are then prorated to 100% to give the composition of the bronze:

Copper	=	$\frac{43.97}{48.51} \times 100$	=	90.64%
Tin	=	$\frac{2.35}{48.51} \times 100$	=	4.85%
Lead	=	$\frac{2.14}{48.51} \times 100$	=	4.41%
Iron	=	$\frac{0.03}{48.51} \times 100$	=	0.06%
Nickel	=	$\frac{0.02}{48.51} \times 100$	=	0.04%
Total	=			100.00%

On Assumption B. The average figures for the analysis of Coin 1, 2, and 4 of Table II are as follows:

Silver	=	92.53%
Gold	=	0.23%
Copper	=	6.40%
Tin	=	0.14%
Lead	=	0.62%
Iron	=	0.04%
Nickel	=	0.03%

In the same way as explained for the calculations on the basis of Assumption A, the percentage of lead to be subtracted from the given percentage found in Coin 13 is given by the expression:

$$\frac{50.97 + 0.35}{92.53 + 0.23} \times 0.62 = 0.34\%$$

Similarly, the amount of tin that would have entered into the alloy of Coin 13 by the use of silver of the composition shown by the above average analysis is given by the expression:

$$\frac{50.97 + 0.35}{92.53 + 0.23} \times 0.14 = 0.08\%$$

This figure is then subtracted from the 2.35% of tin found by analysis in Coin 13 to give 2.27% as the amount of tin introduced along with the copper. In the same way the following expressions give the percentages of copper, iron, and nickel, respectively, to be subtracted from the percentages found by analysis:

$$\frac{50.97 + 0.35}{92.53 + 0.23} \times 6.40 = 3.54\%$$

$$\frac{50.97 + 0.35}{92.53 + 0.23} \times 0.04 = 0.02\%$$

$$\frac{50.97 + 0.35}{92.53 + 0.23} \times 0.03 = 0.02\%$$

When these percentages are subtracted from the percentages found by analysis in Coin 13, the proportions of the components of the bronze are given by the following percentages:

Copper	=	40.43
Tin	=	2.27
Lead	=	2.00
Iron	=	0.01
Nickel	=	none
		<hr/>
Total	=	44.71

In the same way as shown in the calculations under Assumption A, these figures are then prorated to 100% to give the composition of the bronze:

$$\text{Copper} = \frac{40.43}{44.71} \times 100 = 90.43\%$$

$$\text{Tin} = \frac{2.27}{44.71} \times 100 = 5.08\%$$

$$\text{Lead} = \frac{2.00}{44.71} \times 100 = 4.47\%$$

$$\text{Iron} = \frac{0.01}{44.71} \times 100 = 0.02\%$$

$$\text{Nickel} = \text{none}$$

$$\text{Total} = 100.00\%$$

On Assumption C. From the figures for the analysis of Coin 4 and those of Coin 13 the calculations of the composition of the bronze are made in the same way as shown in the calculations for Assumption B. The proportions of the components of the bronze are given by the following percentages:

$$\text{Copper} = 39.25$$

$$\text{Tin} = 2.30$$

$$\text{Lead} = 1.98$$

$$\text{Iron} = 0.01$$

$$\text{Nickel} = 0.02$$

$$\text{Total} = 43.56$$

When these figures are prorated to 100%, the composition of the bronze is found to be as follows:

$$\text{Copper} = 90.10\%$$

$$\text{Tin} = 5.28\%$$

$$\text{Lead} = 4.55\%$$

$$\text{Iron} = 0.02\%$$

$$\text{Nickel} = 0.05\%$$

$$\text{Total} = 100.00\%$$

No allowance is made in these calculations for any preferential loss of the components of the bronze by oxidation or volatilization during the fusion of it with the silver. It seems likely, however, that the

results of the calculations would not have differed materially if allowance had been made for the various small losses that could have occurred in these ways. The results of the above calculations are shown in Table XII along with the results of similar calculations for the four still more debased drachms. It will be seen that the three sets of figures for each coin are similar to each other, in the proportions of main components at least, regardless of which assumption is made as to the composition of the silver that was debased. Hence the exact composition of this silver is, after all, not a matter of great importance for estimating the composition of the bronze. In general, as shown by the closer absolute and relative correspondence of the figures based on the three assumptions, the greater the degree of debasement the less the importance of the exact composition of the

TABLE XII

PROBABLE COMPOSITION OF THE BRONZE USED IN DEBASING THE DRACHMS OF ORODES I CALCULATED ON THREE ASSUMPTIONS AS TO THE COMPOSITION OF THE ALLOY THAT WAS DEBASED

<i>Coin No.</i>	<i>Assumption</i>	<i>Copper %</i>	<i>Tin %</i>	<i>Lead %</i>	<i>Iron %</i>	<i>Nickel %</i>
13	A	90.64	4.85	4.41	0.06	0.04
	B	90.43	5.08	4.47	0.02	none
	C	90.10	5.28	4.55	0.02	0.05
14	A	94.08	3.50	2.36	none	0.06
	B	94.12	3.62	2.22	none	0.04
	C	93.91	3.76	2.27	none	0.06
15	A	92.39	6.70	0.81	none	0.10
	B	92.28	7.02	0.60	0.04	0.06
	C	92.03	7.23	0.60	0.04	0.10
16	A	92.78	4.68	2.38	0.09	0.07
	B	92.73	4.86	2.29	0.06	0.06
	C	92.54	4.98	2.32	0.08	0.08
17	A	89.92	5.96	4.02	0.07	0.03
	B	89.72	6.19	4.03	0.04	0.02
	C	89.49	6.33	4.08	0.06	0.04
All	Av. =	91.81	5.34	2.76	0.04	0.05
16 and 17 only	Av. =	91.20	5.50	3.18	0.07	0.05

silver. Though there are considerable differences in the calculated compositions of the bronze used in the manufacture of the alloys for the individual coins, these compositions viewed as a whole are not radically different. Because of the lesser importance of the exact composition of the silver, and the greater accuracy of the computations, especially as regards the figures for the minor components, the figures calculated for Coins 16 and 17 are probably more reliable than the others. The average figures for these two coins, shown at the bottom of Table XII, may be taken as representative of the probable composition of the bronze that was used in producing the debased silver drachms of Orodes I.

The source of this bronze may have been earlier Parthian bronze coins. It seems significant that the average figures calculated for Coins 16 and 17 are similar to figures for the composition of the bronze coins of Mithradates I and Mithradates II given in Table IX. Bronze of the composition of the bronze coins of Orodes I, either in the form of the coins of this ruler or in the form of bulk metal, evidently could not have been used in producing his debased silver coins. Moreover, it is improbable on the basis of the analytical figures that bronze having the composition of the bronze coins of Sinatruces, or bronze coins of this ruler, could have been used. Only one principal qualitative discrepancy exists between the calculated composition of the bronze used for debasing the silver coins of Orodes I and the actual composition of the two early Parthian bronze coins. This is the presence of arsenic in these coins and its absence from the debased silver coins. However, it is entirely possible that the arsenic in the bronze coins was completely oxidized and volatilized on remelting and that as a consequence none was incorporated in the debased silver.

That bronze in the form of coins, rather than in any other form, was used in debasing silver for the production of drachms of Orodes I is probable. It is the usual practice in mints to obtain much or most of the metal for the issue of new coins by melting down earlier ones, especially if these are badly worn, and at the time of Orodes I it is almost certain that most of the bronze coins of Mithradates I and Mithradates II still in circulation were in poor condition. Furthermore, the bronze coins of these rulers are of larger diameter and greater weight than the bronze coins issued by later rulers, and this

could have been an additional reason for withdrawing these particular coins from circulation and using them as a source of metal.

In Table XIII are shown the results of calculations of the composition of the debased silver that could have been produced by melting bronze of the average composition of the coins of Mithradates I and Mithradates II with silver of the composition of Coin 4 of Table II to produce alloys having the silver content of Coins 16 and 17 of Table II. In making these calculations it was assumed that all the arsenic was volatilized from the bronze, and an allowance was made for a loss of 10% of the tin and lead by preferential oxidation in the process of remelting and alloying. The degree of debasement for Coin 16 is 52.4% and for Coin 17, 53.8%. It will be seen that there is a substantial agreement between the actual and the theoretical figures. On the whole, therefore, it does not appear at all unlikely that the metal for the debased drachms of Orodes I was made by melting down silver coins of his immediate predecessor, or of more than one predecessor, with early Parthian bronze coins.

TABLE XIII

CORRELATION BETWEEN ANALYTICAL FIGURES ON COMPOSITION OF DEBASED DRACHMS OF ORODES I AND THEORETICAL FIGURES

<i>Coin No.</i>	<i>Source of Figures</i>	<i>Silver %</i>	<i>Gold %</i>	<i>Copper %</i>	<i>Tin %</i>	<i>Lead %</i>	<i>Iron %</i>	<i>Nickel %</i>
16	Analysis	43.10	0.33	52.26	2.64	1.15	0.05	0.04
	Calculation	43.10	0.13	52.32	3.32	1.99	0.07	0.04
17	Analysis	41.84	0.34	51.92	3.44	2.48	0.04	0.02
	Calculation	41.84	0.13	52.45	3.41	2.03	0.07	0.04

In Table XIV are shown the results of calculations of the composition of the base alloy of drachms of Orodes I of relatively high fineness, or in other words of drachms that were not deliberately debased or that were much less debased. The serial numbers of the coins in this table correspond to those of Table II. Assumption A was the only one applicable to these calculations, as the other two assumptions led to impossible figures for the percentages of iron or nickel in some of these coins. It will be seen that the composition of the base alloy in these coins is distinctly different from that in the debased drachms (Table XII). The individual alloys that contain less than 2% tin can-

not be classified as bronze at all, but rather as a very impure copper. In Table XV are shown the results of similar calculations of the composition of the base alloy of some drachms of rulers other than Orodes I. Here again only Assumption A was applicable. In half of these coins the base alloy has a composition similar to that of the base alloy in the debased drachms of Orodes I, but in the other half it is merely an impure copper similar to that of the drachms of Orodes I of relatively high fineness. In general, therefore, the composition of the base alloy of Parthian drachms is either a bronze of low tin content and lower lead content, or a very impure copper containing both tin and lead.

TABLE XIV

PROBABLE COMPOSITION OF BASE ALLOY IN DRACHMS
OF ORODES I OF RELATIVELY HIGH FINENESS

<i>Coin No.</i>	<i>Copper %</i>	<i>Tin %</i>	<i>Lead %</i>	<i>Iron %</i>	<i>Nickel %</i>
5	95.05	2.77	2.10	trace	0.08
6	97.34	0.04	2.37	0.21	0.04
7	95.88	1.64	2.20	0.12	0.16
8	93.75	1.71	4.46	trace	0.08
9	94.32	2.55	2.99	0.07	0.07
Av.	95.27	1.74	2.82	0.08	0.09

TABLE XV

PROBABLE COMPOSITION OF BASE ALLOY IN VARIOUS PARTHIAN DRACHMS

<i>Coin No.</i>	<i>Copper %</i>	<i>Tin %</i>	<i>Lead %</i>	<i>Iron %</i>	<i>Nickel %</i>
3	92.90	4.88	2.09	0.03	none
18	96.80	1.51	1.51	0.18	none
19	97.68	1.08	0.96	0.28	none
20	92.53	5.21	2.22	0.04	none
21	91.34	5.93	2.59	trace	0.14
22	94.89	2.47	2.58	none	0.06

In Table XVI are shown the results of calculations of the composition of the base metal in the series of Parthian tetradrachms of Table VII. Assumption A was the only one applicable to these calculations, as the other two led to impossible figures for the percentages of various metals in some of the coins. It will be seen that the base

metal is not a bronze but a relatively pure copper. As may also be seen by comparing these results with those in Tables XIV and XV, this copper is much purer than any of that used for the drachms. The composition of this copper is very similar to that in the Roman As of the same general period, as may be seen by comparing the figures of Table XVI with those of Table XVII, which contains representative analyses from a list previously published by the author.⁶ The analyses in this table are of coins of the reigns of Augustus to Hadrian, in-

TABLE XVI

PROBABLE COMPOSITION OF THE COPPER USED
IN DEBASING PARTHIAN TETRADRACHMS

<i>Coin No.</i>	<i>Copper %</i>	<i>Tin %</i>	<i>Lead %</i>	<i>Iron %</i>	<i>Nickel %</i>
1	98.33	0.17	1.27	0.15	0.08
2	99.08	0.47	0.30	0.11	0.04
3	99.61	none	0.31	0.08	none
4	99.49	0.14	0.19	0.09	0.09
5	98.12	0.97	0.71	0.08	0.12
6	98.72	0.41	0.59	none	0.28
7	99.13	0.24	0.13	0.03	0.47
Max. =	99.61	0.97	1.27	0.15	0.47
Min. =	98.12	none	0.13	none	none
Av. =	98.93	0.34	0.50	0.08	0.15

TABLE XVII

ANALYSES OF ROMAN COPPER COINS

<i>Coin No.</i>	<i>Copper %</i>	<i>Tin %</i>	<i>Lead %</i>	<i>Iron %</i>	<i>Nickel %</i>	<i>Other Impurities %</i>
1	97.93	0.10	0.41	0.05	0.36	0.20
2	99.65	0.01	trace	0.04	0.21	trace
3	99.24	0.10	0.46	0.20	trace	none
4	98.53	0.43	trace	0.43	0.40	0.21
5	99.13	0.22	trace	trace	0.33	0.32
6	99.05	0.53	none	0.10	0.32	trace
7	97.62	0.73	0.30	0.32	0.30	0.63
Max. =	99.65	0.73	0.46	0.43	0.40	0.63
Min. =	97.62	0.01	none	trace	trace	none
Av. =	98.74	0.30	0.17	0.16	0.27	0.19

⁶ Caley, E. R., *The Composition of Ancient Greek Bronze Coins* p. 107.

clusive. Analyses of other Roman copper objects indicate that the copper of these objects rarely exceeded in purity that used for the coins of this denomination, and generally it was less pure. In all probability, therefore, the copper that entered into the composition of the Parthian tetradrachms was also of the highest purity available to the coiners. Indeed, the similarity in the composition of the copper of the Roman As to that used in the Parthian tetradrachms suggests that the copper for both kinds of coins may have come from the same source. All this indicates, therefore, that the metal for Parthian tetradrachms was made by melting together silver of the highest available purity with copper of the highest available purity. This is in sharp contrast to the method of manufacturing metal for the drachms, with the possible exception of very early ones, for, as has been shown, bronze was certainly used in the preparation of the metal for coins of this denomination, and even when copper was used it was less pure than that used for the tetradrachms. Furthermore, silver of the highest purity was not always used in the manufacture of metal for the drachms. The analyses indicate that drachms of earlier date were sometimes melted down in order to obtain metal for the striking of later drachms, but they indicate also that drachms were not melted down to obtain metal for tetradrachms. Though it is possible that earlier tetradrachms were melted down with pure copper to obtain metal for later tetradrachms, this is not indicated by the analyses. As was pointed out before, there is also a difference in the homogeneity of the metal of the drachms and the tetradrachms. All these differences in the metal of the drachms and tetradrachms indicate strongly, at least, that the tetradrachms were struck at different mints than the drachms and possibly in a different part of the Parthian Empire.

VII. FINENESS AND WEIGHT OF PARTHIAN SILVER COINS

The degrees of fineness, expressed on the usual basis of parts per thousand, of all the Parthian drachms that have been assayed or analyzed, are shown in Table XVIII. Figures are given not only for the fineness in terms of silver content but also for the total fineness, which includes the small proportions of gold present in nearly all the coins. Since it is practically certain that all, or nearly all the gold, was introduced into the coinage alloy along with the silver, the intended fineness of the coins is in all probability their total fineness, and not that due to their silver content alone. However, since the proportions of gold are relatively so small, the figures for silver fineness and total fineness are close together and parallel throughout the series. Therefore, it is sufficient to discuss the fineness of these coins on the basis of their silver fineness alone, as any comparisons that may be made as the relative fineness of coins of different date lead to the same conclusions no matter which set of figures is used. Furthermore, this basis is better for comparisons with figures for fineness obtained from specific gravity measurements, a topic discussed in the last three sections of this essay, since the fineness estimated in this way can be expressed only in terms of silver. Also included in Table XVIII are the weights of the drachms that were assayed or analyzed, and the actual weights of silver contained in these coins as computed by multiplying the degrees of fineness by these weights. Unfortunately, the fineness of No. 1, as published by Rauch, is not accompanied by a statement of its weight, and the weight of 3 grams for No. 7, as published by Imhoof-Blumer, appears to be only a rough approximation. Probably none of the weights in the table can be relied on as being accurate original weights of these drachms, as all the specimens analyzed in the present investigation were worn at least to some degree, and the same holds, in all likelihood, for those assayed by the previous investigators. Hence these weights generally must be regarded as tending to be lower than they were originally, and the same holds for the figures for the silver content.

TABLE XVIII

FINENESS AND WEIGHTS OF PARTHIAN DRACHMS

No.	Ruler	Date	Silver Fineness	Total Fineness	Weight Grams	Silver Content Grams
1	Arsaces I (?)	250-248 (?) B.C.	946	946 (?)	—	—
2	Mithradates I	171-138 (?) B.C.	942	943	3.81	3.59
3	Mithradates I	171-138 (?) B.C.	929	932	3.29	3.06
4	Mithradates I	171-138 (?) B.C.	923	925	3.70	3.42
5	Mithradates I	171-138 (?) B.C.	899	904	3.90	3.51
6	Mithradates I	171-138 (?) B.C.	892	894	3.40	3.03
	Mithradates I	171-138 (?) B.C. Av. =	917	920	3.62	3.32
7	Phraates II	138-128/127 B.C.	709	712	—	—
8	Artabanus II	88-77 B.C.	854	855	3.90	3.33
9	Artabanus II	88-77 B.C.	728	730	3.80	2.77
	Artabanus II	88-77 B.C. Av. =	791	793	3.85	3.05
10	Sinatrucses	77-70 B.C.	679	682	3.92	2.66
11	Phraates III (?)	70-57 B.C.	906	909	3.96	3.59
12	Orodes I	57-38/37 B.C.	756	759	3.96	2.99
13	Orodes I	57-38/37 B.C.	748	751	4.02	3.01
14	Orodes I	57-38/37 B.C.	744	748	3.98	2.96
15	Orodes I	57-38/37 B.C.	742	745	3.82	2.83
16	Orodes I	57-38/37 B.C.	698	702	3.92	2.74
17	Orodes I	57-38/37 B.C.	668	672	3.78	2.53
18	Orodes I	57-38/37 B.C.	652	655	3.85	2.51
19	Orodes I	57-38/37 B.C.	582	587	3.70	2.15
20	Orodes I	57-38/37 B.C.	510	514	3.57	1.82
21	Orodes I	57-38/37 B.C.	473	477	3.69	1.75
22	Orodes I	57-38/37 B.C.	464	466	3.84	1.78
23	Orodes I	57-38/37 B.C.	431	434	3.45	1.49
24	Orodes I	57-38/37 B.C.	418	421	3.75	1.57
	Orodes I	57-38/37 B.C. Av. =	607	610	3.79	2.32
25	Tiradates II (?)	26 B.C.	611	613	3.50	2.14
26	Orodes II	4-6 (?) A.D.	798	800	3.20	2.55
27	Orodes II	4-6 (?) A.D.	622	625	3.20	1.99
	Orodes II	4-6 (?) A.D. Av. =	710	713	3.20	2.27
28	Vardanes I	41/42-45 A.D.	743	746	3.65	2.71
29	Gotarzes	40/41-51 A.D.	805	808	3.50	2.82
30	Gotarzes	40/41-51 A.D.	769	773	3.65	2.81
31	Gotarzes	40/41-51 A.D.	755	757	3.60	2.72
	Gotarzes	40/41-51 A.D. Av. =	776	779	3.58	2.78
32	Volagases II	77/78-146/147 A.D.	733	737	3.74	2.74
33	Mithradates IV	130-147 (?) A.D.	770	775	3.28	2.53
34	Mithradates IV	130-147 (?) A.D.	749	753	3.10	2.32
	Mithradates IV	130-147 (?) A.D. Av. =	760	764	3.19	2.43
35	Volagases IV	191-207/208 A.D.	779	782	3.80	2.96
36	Volagases V	207/208-221/ 222 (?) A.D.	521	523	3.32	1.73
37	Artabanus V	213-227 (?) A.D.	746	750	3.20	2.39

It is obvious from Table XVIII (Nos. 1 to 6 inclusive) that the earliest drachms are of higher fineness than later ones, and that they generally contain the highest weight of silver. On the other hand, the weights of these same drachms are often exceeded by those of many later drachms, though they are heavier on the average than drachms issued after the beginning of the Christian Era. Serious debasement is apparent only in the drachms of Orodes I, though it is still possible that some coins of later rulers were similarly debased. The one coin of Volagases V (No. 36) is of low fineness, and possibly the examination of others of this same ruler would show that his coins were also much debased. Wroth⁷ observes that certain individual drachms of other rulers in the collection of the British Museum appear to be struck from silver of poor quality, e.g. one of Sinatruces, one of Phraates III, and one of Phraates IV. However, as far as these present results are indicative, the drachms of Orodes I were debased to a greater degree than those of any other Parthian ruler. The existence of this debasement is further established by the measurements of the specific gravity of a much larger number of his drachms listed and discussed in Section IX of this essay.

In general, Parthian drachms are of lower fineness than similar contemporaneous silver coins issued by countries to the west of Parthia. None of the Parthian drachms reach the very high degree of fineness often found in Greek drachms, in Roman Republican denarii, and in the earliest denarii of the Roman Empire. However, the drachms issued by Parthian rulers at or near the end of their empire are generally of higher fineness and silver content than contemporaneous Roman denarii. Since the Parthian drachms issued after the beginning of the Christian Era were initially of fairly good silver and remained rather constant in fineness and weight while the fineness and weight of the Roman denarii continually declined, the point was ultimately reached when the two became about equal, and finally the denarii became inferior. This relationship is evident on comparing the data in Tables XVIII and XIX.

The degrees of fineness, weights, and silver content by weight of all the Parthian tetradrachms that have been assayed or analyzed are shown in Table XX. All these data have been computed and arranged

⁷ Wroth, W., *B. M. C. Parthia*, *passim*.

in the same way as for the drachms. Here again, the weights of the coins and the corresponding silver content by weight must be regarded as tending to be lower than they were originally, and probably more so than with the drachms, as some of these tetradrachms were appreciably worn. Probably also, a greater proportional loss of metal from corrosion had occurred because of the poor quality of the silver as compared with that of the drachms. Obviously, Parthian tetradrachms of the period covered by these analyses were struck from silver of very low fineness. From the standpoint of proper nomenclature the metal of these coins should be called billon rather than silver. In only one of these examples, the earliest, is the degree of fineness above 500. Furthermore, the fineness evidently declined markedly in the period from about the beginning of the Christian Era to about the time of the end of Parthian rule. As far as the present figures are indicative, this decline in fineness amounts roughly to a half from the beginning to the end of this period.

TABLE XIX

FINENESS AND WEIGHTS OF DENARII OF CERTAIN ROMAN EMPERORS
FROM AUGUSTUS TO SEPTIMIUS SEVERUS INCLUSIVE

<i>Emperor</i>	<i>No. of Coins</i>	<i>Fineness</i>	<i>Weight Grams</i>	<i>Silver Content Grams</i>
Augustus	4	Max. = 991 Min. = 990 Av. = 990	Max. = 3.88 Min. = 3.73 Av. = 3.82	Max. = 3.84 Min. = 3.70 Av. = 3.78
Vespasian	4	Max. = 886 Min. = 798 Av. = 841	Max. = 3.87 Min. = 2.68 Av. = 3.26	Max. = 3.43 Min. = 2.14 Av. = 2.75
Hadrian	8	Max. = 915 Min. = 809 Av. = 848	Max. = 3.47 Min. = 2.72 Av. = 3.21	Max. = 2.85 Min. = 2.49 Av. = 2.72
Commodus	10	Max. = 720 Min. = 671 Av. = 711	Max. = 3.56 Min. = 2.48 Av. = 2.90	Max. = 2.56 Min. = 1.53 Av. = 2.03
Septimius Severus	10	Max. = 755 Min. = 431 Av. = 595	Max. = 3.82 Min. = 2.09 Av. = 3.07	Max. = 2.74 Min. = 0.90 Av. = 1.88

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Notes to Table XIX

This table was constructed from weights of coins and determinations of their fineness published by:

- (a) Bibra, E. von, *Ueber alte Eisen- und Silber-Funde* p. 73.
- (b) Hoefer, F., *Histoire de la Chimie* (Paris, 1866), I, pp. 121-122.
- (c) Rauch, E. von, *Mittheilungen der numismatischen Gesellschaft in Berlin*, III (1857), p. 282.

TABLE XX

FINENESS AND WEIGHTS OF PARTHIAN TETRADRACHMS

No.	Ruler	Date	Silver Fineness	Total Fineness	Weight Grams	Silver Content Grams
1	Phraates IV	37-3/2 B.C.	522	524	14.38	7.51
2	Gotarzes	46/47 A.D.	433	435	10.51	4.55
3	Gotarzes	48/49 A.D.	465	468	11.00	5.12
4	Gotarzes	40/41-51 A.D.	417	419	13.12	5.47
	Gotarzes		Av. = 438	441	11.54	5.05
5	Pacorus II	79/80 A.D.	398	401	11.12	4.43
6	Volagases III	185/186 A.D.	334	335	12.80	4.28
7	Volagases III	147/148-191 A.D.	283	285	10.04	2.84
	Volagases III		Av. = 309	310	11.42	3.56
8	Volagases IV	198/199 A.D.	244	244	12.49	3.05

With the exception of the Alexandrian tetradrachms, which must be regarded as a special class, very few assays or chemical analyses have been made of contemporaneous tetradrachms issued by countries to the west of Parthia. In view of this lack of information about their fineness and the few determinations that have been made of the fineness of Parthian tetradrachms themselves, any conclusions as to the fineness of the latter relative to these others must necessarily be tentative. Our present state of knowledge about the fineness of other contemporaneous tetradrachms, including some Alexandrian tetradrachms, is shown in Table XXI. When compared, the data of Tables XX and XXI indicate that Parthian tetradrachms are of lower fineness than contemporaneous late Syrian tetradrachms of the Roman period, and they appear to indicate that they are of considerably lower fineness than contemporaneous Egyptian tetradrachms of the Ptolemaic period. However, the figure for the one late Ptolemaic tetradrachm may not be at all representative. Many such coins have the appearance of base silver, and lower figures have been obtained

for a few earlier ones in the series. For example, a tetradrachm of Ptolemy X analyzed in the author's laboratory had a fineness of only 510, and Giesecke⁸ reports an analysis of one of Ptolemy Auletes with a fineness of only 336. However, the latter was a plated coin. On the whole, it does not seem possible at present to draw any definite conclusions as to the relative fineness of contemporaneous Parthian and Ptolemaic tetradrachms.

TABLE XXI

FINENESS OF LATE SYRIAN AND EGYPTIAN TETRADRACHMS

Coin No.	Country	Ruler	Fineness
1	Syria	Vespasian	565
2	Syria	Trajan	572
3	Egypt	Ptolemy XIV	830
4	Egypt	Tiberius	287
5	Egypt	Claudius	173
6	Egypt	Nero	172
7	Egypt	Vespasian	180
8	Egypt	Hadrian	157
9	Egypt	Commodus	160
10	Egypt	Septimius Severus	101

Notes to Table XXI

- a. The results of assays of Nos. 1 and 2 were first published by F. Imhoof-Blumer in his *Monnaies Grecques*, p. 474.
- b. No. 3 was analyzed at the University of Leipzig and the results were first published by W. Giesecke in his *Das Ptolemäergeld* p. 93.
- c. The results of a chemical analysis of No. 4 were first published by J. G. Milne, *Numismatic Chronicle*, Ser. IV, X (1910), p. 336.
- d. No. 5 was analyzed by students working under the author's direction, and the above figure was first published by L. C. West and A. C. Johnson in their *Currency in Roman and Byzantine Egypt* (Princeton, 1944), Table II, p. 172. The fineness figures for the remaining coins are taken from their table, and are averages of the fineness figures for two or more coins.

Alexandrian silver coins struck under Tiberius of lower weight than the tetradrachm have been found to be of higher fineness than the one tetradrachm listed in Table XXI. However, as is shown in Table XXII, the actual silver content by weight of such coins and the tetradrachm

⁸ Giesecke, W., *Das Ptolemäergeld* (Leipzig and Berlin, 1930), p. 93.

are about the same, and decidedly below that of Parthian tetradrachms of about the same period. Though the average fineness of the coins of Tiberius is about the same as that of roughly contemporaneous Parthian tetradrachms, the fineness of the one tetradrachm that has been analyzed is much lower, and the coins as a whole contain less silver. As will be seen from Tables XX and XXI, there can be no doubt that Alexandrian tetradrachms of the emperors after Tiberius are of lower fineness than contemporaneous Parthian tetradrachms.

The discrepancy in fineness and weight between Parthian drachms and tetradrachms of the period after the beginning of the Christian Era is considerable, as may be seen by comparing the relevant data in Tables XVIII and XX. Not only are the tetradrachms of lower fineness generally, but their fineness declines markedly, whereas that of the drachms remains relatively constant. This certainly shows a lack of any fixed relationship between the values of the two. It probably indicates also that the two denominations were not only struck at different mints but in different parts of the Parthian empire.⁹

On the average, the weights of the tetradrachms are never as much as four times the weights of the drachms, as may be seen from Table XXIII. Some of this shortage in weight may be due to the

TABLE XXII

FINENESS AND WEIGHTS OF ALEXANDRIAN SILVER COINS OF TIBERIUS

<i>Coin No.</i>	<i>Fineness</i>	<i>Weight Grams</i>	<i>Silver Content Grams</i>
1	611	5.90	3.60
2	546	9.26	5.06
3	395	9.85	3.89
4	352	9.50	3.34
5	287	12.62	3.63
Av. = 438			Av. = 3.90

⁹ On the basis of archaeological and numismatic evidence McDowell (*Coins from Seleucia on the Tigris* (Ann Arbor, 1935), pp. 159-177) concludes that Parthian tetradrachms were struck only at Seleucia and that the drachms were struck elsewhere. The technical data therefore tend to confirm his conclusion. Professor Thomas Mabbott reminds me that the earlier Sasanian kings struck coins obviously descendants of the billon tetradrachms, now uncommon enough to suggest limited circulation.

Notes to Table XXII

- a. Analyses of Nos. 1, 2, 4, and 5 are given by J. G. Milne, *Numismatic Chronicle*, Ser. IV, X (1910), p. 336.
 b. The analysis of No. 3 is reported by W. Giesecke, *Das Ptolemäergeld*, p. 94.

TABLE XXIII

AVERAGE WEIGHTS OF LATER PARTHIAN TETRADRACHMS AND DRACHMS

<i>Ruler</i>	<i>Tetradrachms Grams</i>	<i>Drachms Grams</i>	<i>Tetradrachm to Drachm Ratio</i>
Phraates IV	13.21	3.61	3.66
Phraates V	11.77	3.64	3.23
Vonones I	11.51	3.68	3.13
Artabanus III	12.30	3.63	3.39
Gotarzes	12.72	3.67	3.47
Vardanes I	12.51	3.58	3.49
Volagases I	11.89	3.53	3.37
Artabanus IV	11.84	3.49	3.39
Pacorus II	11.72	3.55	3.30
Volagases II	11.09	3.64	3.05
Volagases III	12.36	3.45	3.58
Volagases IV	11.75	3.59	3.27
Volagases V	12.60	3.60	3.50
Average of Averages	12.10	3.59	3.37

Note to Table XXIII

The weights here gathered together are those given by L. C. West in his *Gold and Silver Standards in the Roman Empire*, NNM No. 94, *passim*.

baser silver of the tetradrachms with its consequent greater tendency to corrode and thus to lose relatively more weight, but it seems doubtful, that this would account for all this shortage in weight. If the actual amounts of silver by weight in drachms and tetradrachms, i.e. their intrinsic values, are compared, the discrepancy between their nominal values is seen to be much greater than suggested by the general discrepancy in weight. For example, the average silver content of the three drachms of Gotarzes listed in Table XVIII is 2.78 grams, whereas that of his three tetradrachms listed in Table XX is but 5.05 grams, which is a ratio of 1.00 to 1.82. If the average weights of the coins of Gotarzes given in Table XXIII are used as

the basis for computation with the same fineness figures, the ratio becomes 1.00 to 1.95. On either basis the tetradrachms of Gotarzes contain a little less than twice as much silver as his drachms. In view of the possibility of a greater relative loss of weight from the tetradrachms for the reason above mentioned, it is not unlikely that his tetradrachms as struck contained just twice as much silver as his drachms. In other words, his so-called tetradrachms were actually didrachms on the basis of their intrinsic value. It seems probable that this was recognized at the time and that these coins of larger module actually passed as didrachms in trade. A similar satisfactory direct comparison of the intrinsic values of the tetradrachms and drachms of other rulers is not possible from the data here presented. However, these data indicate that the so-called tetradrachms of later rulers were never more than didrachms in intrinsic value, and it would seem that in the time of certain late rulers, Volagases IV for example, the intrinsic value of the so-called tetradrachms was about the same as that of the drachms. This whole question of the relative values of the tetradrachms and drachms of Parthia is worthy of a detailed investigation.

VIII. SPECIFIC GRAVITY MEASUREMENTS

As stated in Section IV of this essay, the specific gravities of all these Parthian coins and the clean blanks of these coins were taken before they were analyzed. Also, as mentioned in Section III, the specific gravities were taken of many drachms of Orodes I that were not analyzed, namely, all the remaining duplicates in the collection at Princeton University. This was done with the hope not only of being able to estimate the average fineness and the variation in fineness of a considerable number of drachms of a single Parthian ruler but also of being able to estimate the relative fineness of some varieties of his coins. Furthermore, in the course of the investigation a few other ancient silver coins were analyzed chemically and the specific gravities of these coins and their blanks were taken, so that their fineness as determined by chemical analysis might be compared with that estimated from specific gravity. All this information has made possible a much needed critical evaluation of the validity of specific gravity measurements of ancient silver coins as an index of their fineness. There is considerable evidence that uncritical reliance has been placed on the specific gravity of such coins as a measure of their fineness. Ondrouch,¹⁰ for example, lists the specific gravities of twenty Roman denarii from a hoard and then expresses the corresponding fineness of these coins through two decimal places in percentage. It may easily be shown both theoretically and experimentally that no basis exists for expressing the fineness estimated by this means to any such degree of accuracy, especially the fineness of ancient silver coins.

The estimation of the composition of an alloy from its specific gravity is only possible theoretically if it is composed of two metals and no more. Hence in any estimation of the fineness of an ancient silver coin from its specific gravity it must be assumed that the coin is composed of silver and copper alone, though in fact, as shown by chemical analyses, as for example, those given in Tables II and VII,

¹⁰ Ondrouch, V., *Der römische Denarfund von Vyškovce aus der Frühkaiserzeit* (Bratislava, 1934), p. 11.

such a coin may be composed of an alloy containing six or seven metals. Although most of these metals other than silver and copper are often impurities present in such small proportion that they have little effect on the specific gravity of a coin, sometimes the proportions of certain of these other metals may be high enough to have an appreciable effect on the specific gravity and thus invalidate the necessary assumption that the coin is composed of silver and copper alone. Another assumption that is necessary for any simple computation of fineness from specific gravity is that no change in volume occurs when the two component metals are alloyed together. Actually, changes in volume do occur, but the experiments of Karmarsch¹¹ indicate that they are not great enough nor erratic enough to invalidate this second assumption. For this reason it is possible to use the following ideal formula for computing the fineness of a silver-copper alloy from its observed specific gravity:

$$\text{Fineness} = \frac{S_1 S_x - S_1 S_2}{S_1 S_x - S_2 S_x} \times 1000$$

Where, on the same temperature basis for each,

S_1 is the specific gravity of pure silver.

S_2 is the specific gravity of pure copper.

S_x is the specific gravity of a given alloy.

In applying this formula, the specific gravities of both pure silver and pure copper must obviously be known with sufficient precision. Unfortunately, it is difficult to establish precisely the specific gravity of either of these metals for the general application of this formula because their specific gravities vary considerably in accordance with the mechanical or thermal treatment to which they have been subjected. After a discussion of the various figures that have been reported for the specific gravity of pure silver, Mellor¹² concludes that 10.5 is the most representative value, which is to say that the specific gravity of pure silver can in a general sense be expressed only through the first decimal place. For the same reason the most representative value for the specific gravity of pure copper should be expressed only

¹¹ Karmarsch, K., *Dinglers polytechnisches Journal*, CCIV (1877), pp. 565-573.

¹² Mellor, J. W., *A Comprehensive Treatise on Inorganic and Theoretical Chemistry* (London, 1923), III, p. 323.

as 8.9. However, this low degree of precision is inadequate for the estimation of the fineness of ancient silver coins from specific gravity measurements, as it allows only 16 units of measurement, i.e. the

TABLE XXIV

THEORETICAL DEGREES OF SILVER FINENESS CORRESPONDING TO
SPECIFIC GRAVITIES OF SILVER-COPPER ALLOYS EXPRESSED
ONLY TO TENTHS OF UNITS IN SPECIFIC GRAVITY

<i>Specific Gravity</i>	<i>Silver Fineness</i>	<i>Increment</i>	<i>Rounded Fineness</i>	<i>Increment</i>
10.5	1000		1000	
		53		50
10.4	947	55	950	60
		56		50
10.3	892	56	890	60
		56		60
10.2	836	58	840	60
		58		60
10.1	780	59	780	60
		60		60
10.0	722	60	720	60
		62		60
9.9	663	62	660	60
		62		60
9.8	603	64	600	60
		66		70
9.7	541	67	540	70
		68		70
9.6	479	70	480	70
		71		70
9.5	415	73	420	70
9.4	349		350	
9.3	282		280	
9.2	214		210	
9.1	144		140	
9.0	73		70	
8.9	0		0	

difference between 105 and 89, for the whole scale of fineness from 0 to 1000 degrees. The significance of this is perhaps clearer from Table XXIV where the degrees of fineness corresponding to all possible measurements of specific gravity are given. The second column shows the figures for fineness as actually obtained on computation by the ideal formula, and the fourth column shows these same figures properly rounded off in accordance with the low precision of the specific gravity data. As shown by the columns of differences or increments, this allows estimation of fineness to no closer than about 60 degrees on the average, which is too approximate to be of much use in the study of the fineness of coins. If the specific gravities of pure silver and pure copper were known precisely through the second decimal place, e.g. if these were known precisely for example as 10.50 and 8.90, respectively, then the differences or increments would be correspondingly smaller as is shown by the examples in Table XXV, and the estimation of the fineness of ancient silver coins by means of specific gravity measurements could be made with sufficient accuracy. Since ancient silver coins of all kinds were subjected to about the same kind of mechanical and thermal treatment in the operation of coining, with the rare exception of those formed by casting, it is to be expected that the specific gravity of the silver would be very closely the same for all, and that it could be expressed accurately to more than a single decimal place. The same holds for the copper present as an alloy in such coins, and hence presumably for alloys of silver and copper of any given composition. The experiments of Karmarsch¹³ on the relationship between the specific gravity and the fineness of modern silver coins show that for the special purpose of computing the fineness of such coins from specific gravity measurements the specific gravities of both silver and copper may be expressed with considerable confidence through the second decimal place and that the same specific gravities figures are valid through a wide range of composition. In his experiments on coins of various weights and sizes struck in England, France, Austria, Russia, and various German states between 1772 and 1846, he measured the specific gravity of each coin, assayed them for silver by the fire method, and compared the fineness computed from specific gravity

¹³ Karmarsch, K., *Dinglers polytechnisches Journal*, CCIV (1877), pp. 565-573.

TABLE XXV

THEORETICAL DEGREES OF SILVER FINENESS CORRESPONDING TO
SPECIFIC GRAVITIES OF SILVER-COPPER ALLOYS EXPRESSED TO
HUNDREDTHS OF UNITS IN SPECIFIC GRAVITY

<i>Specific Gravity</i>	<i>Silver Fineness</i>	<i>Increment</i>	<i>Rounded Fineness</i>	<i>Increment</i>
10.50	1000		1000	
		5		5
10.49	995		995	
		6		5
10.48	989		990	
		5		5
10.47	984		985	
		5		5
10.46	979		980	
		6		5
10.45	973		975	
9.75	572		570	
		6		5
9.74	566		565	
		6		5
9.73	560		560	
		6		5
9.72	554		555	
		7		10
9.71	547		545	
		6		5
9.70	541		540	
8.95	37		35	
		8		5
8.94	29		30	
		7		10
8.93	22		20	
		7		5
8.92	15		15	
		8		10
8.91	7		5	
		7		5
8.90	0		0	

with that obtained by fire assay. His results on a series of 28 such coins are summarized in Table XXVI. Though his data on specific gravity are actually given through three decimal places and his data on fineness through one, both have been expressed to the lesser degree of apparent accuracy shown in the table, as this is probably more in accord with the accuracy of his experimental measurements.

TABLE XXVI

DATA OF KARMARSCH ON THE RELATIONSHIP BETWEEN THE FINENESS
AND SPECIFIC GRAVITY OF MODERN SILVER COINS, RECALCULATED,
REARRANGED, AND COMPARED TO THE THEORETICAL FIGURES

<i>Observed Specific Gravity</i>	<i>Fineness by Fire Assay</i>	<i>Fineness by the Formula of Karmarsch</i>	<i>Difference Error</i>	<i>Fineness by Theoretical Formula, I</i>	<i>Difference Error</i>	<i>Fineness by Theoretical Formula, II</i>	<i>Difference Error</i>
10.36	920	927	+ 7	897	— 23	925	+ 5
10.32	899	903	+ 4	874	— 25	903	+ 4
10.31	901	897	— 4	869	— 32	897	— 4
10.31	897	897	0	869	— 28	897	0
10.30	898	890	— 8	863	— 35	892	— 6
10.30	894	890	— 4	863	— 30	892	— 2
10.30	893	890	— 3	863	— 31	892	— 1
10.29	897	884	— 13	858	— 39	886	— 11
10.25	872	860	— 12	835	— 37	864	— 8
10.20	828	830	+ 2	806	— 22	836	+ 8
10.18	813	818	+ 5	795	— 18	825	+ 12
10.17	817	812	— 5	789	— 28	820	+ 3
10.07	750	751	+ 1	731	— 19	762	+ 12
10.05	750	739	— 11	720	— 30	751	+ 1
10.05	747	739	— 8	720	— 27	751	+ 4
9.98	688	696	+ 8	678	— 10	710	+ 22
9.97	690	690	0	673	— 17	704	+ 14
9.93	663	666	+ 3	648	— 15	681	+ 18
9.92	664	660	— 4	642	— 22	675	+ 11
9.87	626	629	+ 3	612	— 14	645	+ 19
9.79	584	581	— 3	563	— 21	597	+ 13
9.77	574	569	— 5	550	— 24	584	+ 10
9.76	564	563	— 1	544	— 20	578	+ 14
9.76	563	563	0	544	— 19	578	+ 15
9.69	521	520	— 1	500	— 21	535	+ 14
9.68	512	514	+ 2	493	— 19	529	+ 17
9.65	497	496	— 1	474	— 23	510	+ 13
9.63	500	484	— 16	462	— 38	497	— 3
			Av. = — 2.3	Av. = — 24.5		Av. = + 6.2	

It will be seen that the figures for fineness computed from specific gravity by means of an empirical formula which he employed agree rather well throughout the whole series with the actual figures obtained by fire assay. This formula, which was really derived from his own experimental data rather than from theoretical considerations, is as follows:

$$\text{Fineness} = \frac{L - 8.833}{0.0016474},$$

Where L is the observed specific gravity of a coin.

However, this empirical formula cannot be applied with such satisfactory results to the estimation of the fineness of coins composed of pure silver or nearly pure silver. Karmarsch found that coins struck from pure silver had a specific gravity of 10.547. When this figure is substituted in his formula the fineness is found to be 1040, or 40 degrees too high. Likewise, coins with a fineness of 994 were found to have a specific gravity of 10.537, and this gives a fineness of 1034 by his formula, or again 40 degrees above the actual fineness. At the other extreme of the range of composition of silver-copper alloys his formula leads to even higher positive errors. He found that coins struck from pure copper had a specific gravity of 8.956, which by his formula gives a fineness of 75 instead of 0. Hence the empirical formula of Karmarsch gives results of satisfactory accuracy only in a certain range of composition. On the other hand, the theoretical formula, on the basis of the specific gravities he found for pure silver and pure copper coins, gives very close results at the extreme ranges of composition but much poorer results, as is shown by the fifth and sixth columns of Table XXVI, for coins of intermediate composition. However, fairly satisfactory results for coins of intermediate composition are obtained by the theoretical formula if the specific gravities of silver and of copper are taken to be 10.50 and 8.90, respectively, as is shown by the last two columns of Table XXVI. Regardless of the different results obtained by these different methods of computation, the fineness of modern silver coins may evidently be estimated with satisfactory accuracy from their specific gravities by the use of one formula or another, at least when the coins are of large size, for it is important to note that the results of Karmarsch were

obtained mostly on crowns and thalers. It now remains to be seen whether the fineness of ancient coins may be estimated with an equal degree of accuracy by this means.

From the data in Tables XXV and XXVI it is evident that the specific gravity of a coin must be determined accurately through the second decimal place if results of satisfactory accuracy are to be obtained, since each unit in the second decimal place is equal on the average to 6 units of fineness. In practice this is not difficult to do with large ancient coins, such as tetradrachms, but it may be very difficult to do with small ones, such as obols. The most convenient and the usual way to determine the specific gravity of a coin is by the method of Archimedes. In this method the coin is weighed accurately in air and then weighed again while it is suspended in water by means of a fine wire. By subtracting from this second weight the weight of the wire alone suspended in water, the weight of the coin in water is found. The difference between the weight of the coin in air and the weight of the coin in water divided into its weight in air gives the specific gravity of the coin. In very accurate work, corrections are made for the buoyant effect of the air on both the coin and the weights, and for the density of the water at the temperature of weighing, but these corrections are of little importance in the determination of the specific gravity of ancient coins, for, as will be shown, other sources of error greatly overshadow these small ones. Though the weight of the coin in air may be determined with a high degree of accuracy by means of a good balance and weights, this is not true for the weight of the coin in water because the surface film of water clings to the suspension wire in the process of weighing and so prevents the balance beam from swinging freely. This occurs, of course, both while the coin is being weighed in water and while the weight of the suspension wire alone is being measured. The effect of this is to introduce an uncertainty into the weight of the coin in water. In spite of all refinements, such as the use of a very fine suspension wire and the addition of a wetting agent to the water so as to reduce its surface tension, the weight of the coin in water beyond the third decimal place in grams is very uncertain, and usually there is an uncertainty of one unit in the third decimal place. In other words, there is usually an uncertainty of one milligram in one direction or the

other in the weight of the coin in water. This may seem a small error, but actually it may have a considerable effect on the computed specific gravity of the coin, especially for small coins, since the relative magnitude of the effect increases as the weight of the coin decreases. This is illustrated by the examples given in Table XXVII. These hypothetical examples show for ideal silver coins of three common Greek denominations the effect of a weighing error of one milligram in one direction or the other on the computed specific gravity and corresponding fineness. Here the fineness was calculated from the specific gravity figures by the theoretical formula, taking 10.50 as the specific gravity of silver and 8.90 as the specific gravity of copper. In these examples it is assumed that the correct specific gravity is 10.00 and that the correct fineness is 722. Obviously, when a coin is as small as an obol the error from this source is so great that any attempt to determine its specific gravity by the method of Archimedes and its corresponding fineness may give very inaccurate results. For such very small coins it is better to use some alternate method of determining specific gravity, such as a method involving the use of a special pyknometer or weighing bottle. Though this will eliminate the error

TABLE XXVII

RESULTS OF HYPOTHETICAL CALCULATIONS FOR COINS OF DIFFERENT SIZE SHOWING THE EFFECT OF AN ERROR OF ONE MILLIGRAM IN ESTABLISHING THE WEIGHT OF A COIN IN WATER WHEN DETERMINING THE SPECIFIC GRAVITY OF ANCIENT SILVER COINS BY THE METHOD OF ARCHIMEDES FOR THE PURPOSE OF ESTIMATING THE FINENESS OF THE COINS

<i>Denomination</i>	<i>Weight in Air Grams</i>	<i>Weight in Water Grams</i>	<i>Loss of Weight Grams</i>	<i>Specific Gravity</i>	<i>Fineness</i>
Tetradrachm	16.000	14.401	1.599	10.01	728
		14.000	1.600	10.00	722
		13.399	1.601	9.99	716
Drachm	4.000	3.601	0.399	10.03	739
		3.600	0.400	10.00	722
		3.599	0.401	9.98	710
Obol	0.660	0.595	0.065	10.15	808
		0.594	0.066	10.00	722
		0.593	0.067	9.85	633

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caused by the use of a suspension wire it will unfortunately introduce other sources of error, which are generally of the same order of magnitude even though numerically somewhat smaller. In general, it does not seem possible by any of the usual methods to estimate the specific gravity of very small ancient silver coins with sufficient accuracy to yield anything but very approximate figures for their fineness.

An important source of error in the estimation of the fineness of ancient silver coins from specific gravity measurements arises from the presence of corrosion products in or on the coins. Since such corrosion products have a much lower specific gravity than the metals from which they are formed, that of silver chloride, for example, being only about 5.5, their presence will cause the observed specific gravity of a coin to be lower than it should be, and, of course, the computed fineness also to be lower. The importance of this as a possible source of serious error is indicated by the data given in Table XXVIII. The experimental data upon which this table is based were obtained over a century ago by Brüel¹⁴ when he analyzed a miscellaneous series of ancient silver coins and also determined their specific gravities. These coins were not any more closely identified than is shown in the note to the table. Fortunately, this analyst not only selected somewhat corroded coins for analysis but determined the proportion of the main corrosion product, silver chloride. Hence, his experimental data, obtained over a century ago, now becomes useful for the purpose of showing to what extent corrosion products vitiate estimations of fineness based on specific gravity. It will be seen that the fineness computed either by the formula of Karmarsch or by the theoretical formula agrees satisfactorily with the fineness determined by chemical analysis for only the first two coins, those of highest fineness, and that for all the others there is no agreement at all. In general, the discrepancy increases with decrease in fineness, though the relationship between the two is very approximate and erratic. Although the errors are generally less in the six coins that contain the lowest proportions of silver chloride than in the five that contain the highest proportions, large irregularities and inconsistencies occur within these groups. For example, No. 5 contains less silver chloride

¹⁴ Reported in *Journal für praktische Chemie*, XXX (1843), pp. 334-342.

than No. 1, yet the error is much greater, and No. 8 contains much less than No. 7, yet the error is about the same. Though exact calculations of the effect of the presence of the various proportions of silver chloride on the specific gravities of these coinage alloys are not possible because of uncertainties about the accuracy of the determinations of the minor components of these alloys, approximate calculations show clearly enough that the presence of such proportions of silver chloride is not in itself sufficient to account completely for the observed low specific gravities.

TABLE XXVIII

DISCREPANCY BETWEEN FINENESS OF CORRODED ANCIENT SILVER
COINS AS DETERMINED BY CHEMICAL ANALYSIS AND AS
ESTIMATED FROM SPECIFIC GRAVITY

Coin No.	Specific Gravity	Fineness by Chemical Analysis	Fineness by Formula of Karmarsch	Difference Error	Fineness by Theoretical Formula	Difference Error	Silver Chloride Content %
1	10.45	982	982	0	975	— 7	0.49
2	10.43	980	969	— 11	965	— 15	0.31
3	10.12	925	781	— 144	790	— 135	0.76
4	9.85	835	617	— 218	635	— 200	0.54
5	9.74	799	551	— 248	565	— 234	0.40
6	9.63	900	484	— 416	495	— 405	0.63
7	9.57	876	447	— 429	460	— 416	5.77
8	9.52	859	417	— 442	425	— 434	1.86
9	9.50	765	405	— 360	415	— 350	6.21
10	9.46	854	381	— 473	390	— 464	8.48
11	9.02	763	114	— 649	85	— 678	13.04

Notes to Table XXVIII

These coins may be attributed only to the following extent:

1. Denarius of Tiberius. Wt. = 3.24 grams.
2. Roman Republican Denarius. Wt. = 3.10 grams.
3. Denarius of Domitian. Wt. = 2.85 grams.
4. Denarius of Vespasian. Wt. = 2.51 grams.
5. Denarius of Faustina. Wt. = 2.53 grams.
6. Denarius of Vespasian. Wt. = 2.43 grams.
7. Didrachm of Neapolis. Wt. = 7.07 grams.
8. Denarius of Hadrian. Wt. = 2.89 grams.
9. Denarius of Hadrian. Wt. = 2.66 grams.
10. Drachm of Hyela. Wt. = 3.95 grams.
11. Obol of Heraclea. Wt. = 0.76 grams.

Two noticeably corroded coins analyzed in the course of this investigation showed even greater discrepancies between the silver content estimated from specific gravity and that determined by analysis. One was a drachm of Mithradates IV that had a specific gravity of 9.12, which corresponds to a theoretical silver fineness of 158. The actual fineness by analysis was 770, so that the discrepancy amounts to 612 degrees of fineness. The cleaned blank of this coin had a specific gravity of 9.56, which corresponds to a theoretical fineness of 453. Still greater discrepancies were found on the examination of a denarius of Vespasian. This coin had a specific gravity of 9.04, which corresponds to a theoretical silver fineness of 102. But the fineness as determined by analysis was 891, so that the discrepancy amounts to 789 degrees of fineness. The cleaned blank of this coin had a specific gravity of 9.10, which corresponds to a fineness of 144, so that even on the blank the discrepancy amounts to 747 degrees of fineness. The difference in the distribution of the corrosion products in these two coins accounts for the fact that the specific gravity of the blank of one of them is much higher than that of the coin itself, whereas with the other there is not much difference. The coin of Mithradates IV was much corroded on the exterior but the blank was not visibly corroded, whereas the coin of Vespasian was visibly corroded throughout. Nevertheless, it was also apparent that the presence of the corrosion products did not in itself account entirely for the very low observed specific gravities of these coins and their blanks.

In general, it is obvious from all these data that the specific gravity of visibly corroded ancient silver coins is not a reliable index of their fineness, except possibly when the observed specific gravity is very high.

In Table XXIX are shown data on the specific gravity and fineness of a group of ancient silver coins in ordinary condition, that is without any appreciable amounts of corrosion products visible on their surfaces. Probably all these coins had been cleaned mechanically or chemically at one time or another.

It will be seen that here again the fineness derived from specific gravity agrees reasonably well with that determined by chemical analysis only for the first two coins, those of highest specific gravity. For two other coins, Nos. 3 and 4, the agreement is perhaps close

enough for practical purposes, but for the others the agreement is decidedly poor, though not nearly so poor in general as for the corroded coins of similar lower fineness listed in Table XXVIII.

TABLE XXIX

SPECIFIC GRAVITY AS AN INDEX OF THE FINENESS OF ANCIENT SILVER
COINS NOT VISIBLY CORRODED

Coin No.	Specific Gravity	Fineness by Chemical Analysis	Fineness by Formula of Karmarsch	Difference Error	Fineness by Theoretical Formula	Difference Error
1	10.53	987	1030	+ 43	1016	+ 29
2	10.33	944	909	— 35	908	— 36
3	10.32	964	903	— 61	903	— 61
4	10.29	942	884	— 58	886	— 56
5	10.26	948	866	— 82	870	— 78
6	10.09	906	763	— 143	774	— 132
7	10.08	875	756	— 119	768	— 107
8	9.93	929	666	— 263	681	— 248
9	9.92	733	660	— 73	675	— 58
10	9.85	769	617	— 152	633	— 136
11	9.75	744	557	— 187	572	— 172
12	9.66	743	502	— 241	516	— 227
13	9.63	668	484	— 184	497	— 171
14	9.59	679	460	— 219	472	— 207
15	9.45	522	374	— 148	382	— 140
16	9.34	521	308	— 213	309	— 212
				Av. = — 133		Av. = — 126

Key to the Identification, Weight, and Chemical Composition of the Coins Listed in Table XXIX.

i. Drachm of Alexander the Great, Usual Type. Wt. = 4.13 grams.
The results of chemical analysis were as follows:

Silver	=	98.65%
Gold	=	0.37%
Copper	=	0.22%
Tin	=	0.06%
Lead	=	0.72%
Iron	=	0.03%
Total	=	100.05%

2. Roman Republican Denarius. Obv. Head of Roma r. Rev. ROMA, dioscuro to r. Wt. = 3.25 grams. The results of chemical analysis were as follows:

Silver	= 94.43%
Gold	= 0.49%
Copper	= 4.42%
Tin	= 0.17%
Lead	= 0.39%
Iron	= 0.07%
Total	= 99.97%

3. Persian Siglos, Usual Type. Wt. = 5.53 grams. The results of chemical analysis were as follows:

Silver	= 96.38%
Gold	= 0.10%
Copper	= 2.67%
Tin	= none
Lead	= 0.82%
Iron	= 0.03%
Total	= 100.00%

4. Drachm of Mithradates I. Wt. = 3.81 grams. Analysis No. 1 in Table II.
 5. Roman Republican Denarius. Obv. Head of Saturn l. Below, ROMA Rev. Venus in slow biga r. In exergue, L. AEMMI GAL. Wt. = 3.86 grams. The results of chemical analysis were as follows:

Silver	= 94.79%
Gold	= 0.54%
Copper	= 4.24%
Tin	= 0.02%
Lead	= 0.23%
Iron	= none
Nickel	= trace
Zinc	= none
Total	= 99.82%

6. Drachm of Phraates III (?). Wt. = 3.96 grams. Analysis No. 4 in Table II.
 7. Tetradrachm of Ptolemy X. Obv. Head of Ptolemy to r. Rev. ΠΤΟΛΕΜΑΙΟΥ ΒΑΣΙΛΕΩΣ Standing eagle l. Ll and ΠΑ to l. and r. Wt. = 13.31 grams. The results of chemical analysis were as follows:

Silver	= 87.49%
Gold	= 0.39%
Copper	= 10.24%
Tin	= trace
Lead	= 1.46%
Iron	= 0.04%
Total	= 99.62%

8. Drachm of Mithradates I. Wt. = 3.29 grams.
Analysis No. 2 in Table II.
9. Drachm of Volagases II. Wt. = 3.74 grams.
Analysis No. 20 in Table II.
10. Drachm of Gotarzes. Wt. = 3.65 grams..
Analysis No. 18 in Table II.
11. Drachm of Orodes I. Wt. = 3.98 grams.
Analysis No. 7 in Table II.
12. Drachm of Vardanes I. Wt. = 3.65 grams.
Analysis No. 19 in Table II.
13. Drachm of Orodes I. Wt. = 3.78 grams.
Analysis No. 10 in Table II.
14. Drachm of Sinatruces. Wt. = 3.92 grams.
Analysis No. 3 in Table II.
15. Tetradrachm of Phraates IV. Wt. = 14.34 grams.
Analysis No. 1 in Table VII.
16. Drachm of Volagases V. Wt. = 3.32 grams.
Analysis No. 22 in Table II.

The abnormally high specific gravity of No. 1 of Table XXIX and the corresponding derived fineness of over 1000 is evidently due to the presence of sufficient proportions of gold and lead, both of higher specific gravity than silver itself. The effect of their presence on the specific gravity of the coin may be computed from the analytical figures if the assumption is made that no change in volume occurred when the component metals were alloyed. By dividing each percentage by the corresponding specific gravity, the volume occupied by a given metal in a hundred grams of alloy is found. Then by adding these volumes together and dividing into this weight there is obtained what may be called the theoretical specific gravity of the coinage alloy. The details of this computation are as follows:

$$\text{For silver, } \frac{98.65}{10.5} = 9.395 \text{ cc.}$$

$$\text{For gold, } \frac{0.37}{19.3} = 0.019 \text{ cc.}$$

$$\text{For copper, } \frac{0.22}{8.9} = 0.025 \text{ cc.}$$

$$\text{For tin, } \frac{0.06}{7.3} = 0.008 \text{ cc.}$$

$$\text{For lead, } \frac{0.72}{11.3} = 0.064 \text{ cc.}$$

$$\text{For iron, } \frac{0.03}{7.9} = 0.004 \text{ cc.}$$

$$\text{Total} = 9.515 \text{ cc.}$$

$$\frac{100.05}{9.515} = 10.52 \text{ theoretical specific gravity.}$$

Instead of using 100.05, the actual summation of the analytical figures, for this computation, it is perhaps better logically to prorate the analytical figures to a summation of exactly 100.00, though if this is done only the figure for silver is affected and the final division, $\frac{100.00}{9.50} = 10.52$, gives the same result. It will be seen that this result agrees very well with the observed specific gravity of 10.53, and this high figure is thus satisfactorily explained.

In Table XXX are shown data on the specific gravity and fineness of the cleaned blanks of the coins listed in Table XXIX. It will be seen that the agreement between the fineness estimated from specific gravity and that determined by chemical analysis is generally very much closer for these blanks than for the coins themselves. This shows that the metal on the surface of such coins must be abnormally low in specific gravity, probably because it is more or less porous. Such porosity is probably caused by the superficial corrosion of the metal followed by the leaching out of the products of corrosion either naturally or in the process of cleaning. The greater lack of agreement between the fineness estimated from specific gravity and that found by chemical analysis for the baser coins, as contrasted to those composed of nearly fine silver, is in accordance with this explanation because the surface of such coins is more likely to be corroded under natural conditions.

The specific gravity of the metal removed from the surface of a coin in preparing a blank for analysis may actually be computed from the specific gravity of the coin, the specific gravity of the blank, the weight of the coin, and the weight of the blank. The volumes of the coin and the blank are found by dividing the respective weights by the respective specific gravities, and the difference of the two volumes is the volume of the metal removed. The weight of the metal removed

TABLE XXX

SPECIFIC GRAVITY AS AN INDEX OF THE FINENESS OF THE BLANKS
OF ANCIENT SILVER COINS NOT VISIBLY CORRODED

Coin No.	Specific Gravity	Fineness by Chemical Analysis	Fineness by Formula of Karmarsch	Difference Error	Fineness by Theoretical Formula	Difference Error
1	10.56	987	1046	+ 59	1032	+ 45
2	10.41	944	957	+ 13	952	+ 8
3	10.32	964	903	— 61	903	— 61
4	10.35	942	921	— 21	919	— 23
5	10.32	948	903	— 45	903	— 45
6	10.18	906	818	— 88	825	— 81
7	10.22	875	842	— 33	848	— 27
8	10.10	929	769	— 160	780	— 149
9	10.09	733	763	+ 30	774	+ 41
10	10.05	769	739	— 30	751	— 18
11	10.01	744	714	— 30	728	— 16
12	10.06	743	745	+ 2	757	+ 14
13	9.86	668	623	— 45	639	— 29
14	9.85	679	617	— 62	633	— 46
15	9.68	522	514	— 8	529	+ 7
16	9.63	521	484	— 37	497	— 24
Av. =				— 32	Av. = — 25	

is the difference between the weights of the coin and the blank, and the specific gravity of the metal removed is its weight divided by its volume. All this may be expressed by means of the following formula:

$$S_r = \frac{W_c - W_b}{\frac{W_c}{S_c} - \frac{W_b}{S_b}}$$

Where, S_r is the specific gravity of the metal removed
 S_c is the specific gravity of the coin
 S_b is the specific gravity of the blank
 W_c is the weight of the coin in grams
 W_b is the weight of the blank in grams

The specific gravity thus computed is, of course, only an average figure, as the metal removed is in all probability not homogeneous. It may consist of solid metal, but usually it is metal mixed with corrosion products, metal that is porous, or metal that is both porous and mixed with corrosion products. Furthermore, it may differ in specific gravity with distance from the surface of the coin.

The data necessary for the computation and the results of computation by the above formula for the coins listed in Table XXIX are shown in Table XXXI. It will be seen that the average specific gravity of the metal removed from each of the coins is, with a single exception, lower than that of the corresponding coin or blank. In No. 3 it is slightly higher, but this is caused by the unusually small

TABLE XXXI

AVERAGE SPECIFIC GRAVITY OF METAL REMOVED FROM COINS
IN PREPARATION OF BLANKS

<i>Coin No.</i>	<i>Weight of Coin Grams</i>	<i>Weight of Blank Grams</i>	<i>Specific Gravity of Coin</i>	<i>Specific Gravity of Blank</i>	<i>Average Specific Gravity of Metal Removed</i>
1	4.1311	4.0000	10.53	10.56	9.64
2	3.2470	3.0909	10.33	10.41	8.97
3	5.5307	5.4561	10.32	10.32	10.36
4	3.8079	3.4057	10.29	10.35	9.06
5	3.8590	3.4770	10.26	10.32	9.75
6	3.9570	3.4220	10.09	10.18	9.71
7	13.3055	13.1188	10.08	10.22	5.13
8	3.2855	2.7687	9.93	10.10	9.10
9	3.7407	3.0467	9.92	10.09	9.24
10	3.6517	2.8437	9.85	10.05	9.21
11	3.9800	3.2220	9.75	10.01	8.76
12	3.6517	2.7357	9.66	10.06	8.62
13	3.7830	3.2850	9.63	9.86	8.36
14	3.9237	3.5467	9.59	9.85	7.69
15	14.3780	13.0460	9.45	9.68	7.66
16	3.3147	2.4757	9.34	9.63	8.58

weight and volume of the metal removed which gave an insufficient number of digits to yield an accurate figure. Actually, since the coin and the blank have the same specific gravity, that of the metal removed should also be 10.32. The specific gravity of the metal removed is more than one unit in specific gravity below that of the coin, the blank, or both in half the examples in this group of coins. There is no reason to suspect that the surprisingly low result for No. 7 is not valid. As will shortly be shown, the surface metal of three other tetradrachms was found to have an even lower specific gravity. Such a result certainly shows the presence of porous metal on the surface of the coin.

In general, therefore, it is obvious that the specific gravity of ancient silver coins in ordinary condition is not a reliable index of their fineness, except when the observed specific gravity is very high. The data in Tables XXIX and XXX also show that for such coins the fineness computed by the theoretical formula leads to noticeably closer results than when computed by the empirical formula of Karmarsch.

Some surprising results are obtained when an attempt is made to estimate the fineness of ancient billon coins from specific gravity measurements. Very often the specific gravity of a given coin is much below that of pure copper, so that the indication is that the coin contains no silver at all. Examples are shown in Table XXXII. Even the specific gravity of the blanks of most of these coins is below that of

TABLE XXXII

SPECIFIC GRAVITY AND FINENESS OF SOME
ANCIENT BILLON COINS AND THEIR BLANKS

No.	<i>Specific Gravity of Whole Coin</i>	<i>Specific Gravity of Blank</i>	<i>Fineness</i>
1	8.88	9.26	244
2	8.86	9.25	417
3	8.50	9.13	398
4	8.12	8.79	155
5	7.70	8.62	283
6	7.67	8.03	465
7	7.36	7.88	433
8	5.60	6.80	225

60 *Chemical Composition of Parthian Coins*

Key to Identification, Weight, and Chemical Composition of Coins Listed in Table XXXII

1. Parthian Tetradrachm of Volagases IV. Wt. = 12.49 grams.
Analysis No. 7 in Table VII.
2. Parthian Tetradrachm of Gotarzes. Wt. = 13.12 grams.
Analysis No. 4 in Table VII.
3. Parthian Tetradrachm of Pacorus II. Wt. = 11.12 grams.
Analysis No. 5 in Table VII.
4. Alexandrian Tetradrachm of Vespasian, Year 2. Wt. = 12.26 grams.
The results of chemical analysis were as follows:

Silver	= 15.53%
Copper	= 81.00%
Tin	= 1.74%
Lead	= 0.13%
Iron	= 0.08%
Total	= 98.48%

5. Parthian Tetradrachm of Volagases III. Wt. = 10.04 grams.
Analysis No. 6 in Table VII.
6. Parthian Tetradrachm of Gotarzes. Wt. = 11.00 grams.
Analysis No. 3 in Table VII.
7. Parthian Tetradrachm of Gotarzes. Wt. = 10.51 grams.
Analysis No. 2 in Table VII.
8. Alexandrian Tetradrachm of Vespasian, Year 2. Wt. = 7.03 grams.
The results of chemical analysis were as follows:

Silver	= 22.53%
Copper	= 75.29%
Tin	= 0.46%
Lead	= 0.20%
Iron	= 0.05%
Total	= 98.53%

pure copper, which shows that the porosity due to corrosion was much more than superficial. Especially striking are the low figures for the specific gravities of the coin and blank of the last example in the table. From its composition as found by analysis, the specific gravity of this coin or its blank, if it were of solid metal, should theoretically be about 9.22. If the observed very low figures are due entirely to porosity, the figure of 5.60 for the coin means that on the average about 39% of its volume consisted of empty cavities. The corresponding figure for the blank is about 26%. Of course, the observed very

low figures may not be entirely the result of empty cavities, but may be caused in part by cavities partly or entirely filled with corrosion products. The presence of some corrosion products is indicated by the failure of the sum of the metals to add up to 100.00%. The difference between this figure and the actual summation of 98.53% is certainly in large part due to the presence of chlorine, oxygen, or other undetermined non-metals.¹⁵ However, since the specific gravity of certain of the more likely corrosion products approaches or exceeds the observed figures, that of silver chloride being about 5.5 and that of cuprous oxide being about 6.0, for example, it is improbable that more than a small proportion of such partly or completely filled cavities could have been present in this coin or its blank.

In Table XXXIII are shown, for the blank of this coin and the blanks of the other coins listed in Table XXXII, data on the approximate percentages of non-metals, as indicated by the deficiencies in the summation of the metallic components, the specific gravities, both observed and theoretical, their differences, and the estimated apparent porosity for each blank, which may be defined as the percentage of minute cavities or pores by volume, on the assumption that these are empty. This is computed by dividing the difference between the observed and theoretical specific gravity by the theoretical specific gravity and multiplying by 100. These data are based on the blanks rather than on the coins themselves since the purpose is to show to what extent porosity may exist deep within the body of such coins, and furthermore, the calculations are more valid for the blanks because the analytical figures were obtained on them.

It will be seen that the observed and theoretical specific gravities of No. 1 in Table XXXIII are almost the same, which indicates that the blank of this coin was not porous. The low specific gravity of the coin itself must be ascribed to porous metal on its surface. Nos. 2 and 3 were slightly porous, but the minute cavities of No. 2 were probably more or less filled with corrosion products, whereas those of

¹⁵ In general, the difference between the actual summation of an analysis and the ideal summation of 100.00% is due either to the presence of undetermined components or to experimental error. In this analysis there were no undetermined metals in appreciable proportion, and the experimental error was probably very small since the summations of two separate careful analyses came to 98.52% and 98.53%.

No. 3 must have been largely empty. Nos. 5, 6, and 7 were much more porous than Nos. 2 and 3 and contained much more corrosion products. The rather small figures for the deficiencies in summation shown in the table represent much higher percentages of corrosion products. Silver chloride and cuprous oxide have been observed to be the principal products of corrosion included in the metal of coins of this sort. If silver chloride is the only one present, a deficiency in summation of 1% represents about 4% of this compound, and if cuprous oxide is the only one, the same deficiency in summation represents about 9%. Generally both products are present in various proportions. If present in equal proportions, 1% deficiency represents about 6.5% of corrosion products, and 6.5 may be used as a rough factor to convert percentage of deficiency in summation into approximate percentage of corrosion products. It is obvious, therefore, that

TABLE XXXIII

APPARENT POROSITY OF BLANKS OF BILLON COINS

No.	<i>Deficiency in Summation %</i>	<i>Observed Specific Gravity</i>	<i>Theoretical Specific Gravity</i>	<i>Difference in Specific Gravity</i>	<i>Apparent Porosity %</i>
1	0.41	9.26	9.24	+ 0.02	none
2	0.44	9.25	9.52	— 0.27	2.8
3	0.10	9.13	9.50	— 0.37	3.9
4	1.52	8.79	9.08	— 0.29	3.2
5	2.57	8.62	9.32	— 0.70	7.5
6	4.03	8.03	9.63	— 1.60	16.6
7	2.69	7.88	9.56	— 1.68	17.6
8	1.47	6.80	9.22	— 2.42	26.2

Nos. 5, 6, and 7 contained considerable proportions of corrosion products included in the metal. Though the proportions of corrosion products in Nos. 4 and 8, which were blanks of duplicate coins, were probably almost the same, the apparent porosities were very different. This indicates that the cavities or pores of No. 4 were largely filled with corrosion products, whereas those of No. 8 were more or less empty. The cavities or pores of all such coins or their blanks are generally not apparent to the eye, for the metal usually appears to be sound, though it may appear discolored if the proportion of corrosion products is unusually high. These minute cavities or pores apparently

exist for the most part as interstices between grains of sound metal. Their existence has been confirmed by microscopic examination. In all probability they are not original defects in the metal but were formed as a result of intergranular corrosion.

The computed specific gravity of the metal removed from each of these tetradrachms in preparing the blanks is shown in Table XXXIV. As will be seen, it is always much lower than that of the corresponding coin or blank. These specific gravities are all more than one unit low and some are over three units low. Those for Nos. 4 and 8, both Alexandrian tetradrachms, are surprisingly low. In general, these results show that the surface metal of all these base tetradrachms was very porous.

TABLE XXXIV

AVERAGE SPECIFIC GRAVITY OF METAL REMOVED FROM
TETRADRACHMS IN PREPARATION OF BLANKS

<i>Coin No.</i>	<i>Weight of Coin Grams</i>	<i>Weight of Blank Grams</i>	<i>Specific Gravity of Coin</i>	<i>Specific Gravity of Blank</i>	<i>Average Specific Gravity of Metal Removed</i>
1	12.491	9.922	8.88	9.26	7.67
2	13.124	11.816	8.86	9.25	6.41
3	11.122	9.321	8.50	9.13	6.26
4	12.259	10.928	8.12	8.79	4.99
5	10.038	7.647	7.70	8.62	5.74
6	11.003	9.262	7.67	8.03	6.19
7	10.508	8.743	7.36	7.88	5.55
8	7.033	5.720	5.60	6.80	3.17

Another interesting example of very low specific gravity was observed in a tetradrachm of Ptolemy X, though this coin had a considerably higher silver content than No. 8 of Table XXXII. The results of chemical analysis were as follows:

Silver	= 50.99%
Gold	= 0.23%
Copper	= 42.20%
Tin	= 1.56%
Lead	= 1.30%
Iron	= 0.05%
Nickel	= 0.03%
Zinc	= 0.10%
Total	= 96.46%

The specific gravity of this tetradrachm was only 5.68, and its apparent porosity was about 41%, or more than that of No. 8 of Table XXXII. When the attempt was made to determine the specific gravity of the blank of this coin in the usual way, an interesting and significant phenomenon was encountered in the form of a slow increase in its apparent weight while it was suspended in water. The weight observed when the coin was first suspended in the water was 6.082 grams, but after a few minutes the apparent weight was noticeably greater, and several such successive weighings were made in the hope that equilibrium would soon be reached. When this did not occur, both the observed weights and the times of weighing were recorded. Some results of these timed weighings are shown in Table XXXV. As there indicated, final equilibrium was not reached until over 24 hours had passed. This gradual increase of weight was evidently due to the slow seepage of water into the pores of the metal.

TABLE XXXV

RESULTS OF EXPERIMENTS ON GAIN IN APPARENT WEIGHT OF BLANK OF TETRADRACHM OF PTOLEMY X IMMERSSED IN WATER

<i>Consecutive Weighing</i>	<i>Elapsed Time Minutes</i>	<i>Observed Weight of Blank and Wire in Water Grams</i>	<i>Cumulative Gain in Weight Grams</i>
1	0	6.167	
2	142	6.233	0.066
3	145	6.234	0.067
4	151	6.237	0.070
5	166	6.243	0.076
6	311	6.293	0.126
7	320	6.296	0.129
8	1693	6.382	0.215
9	1704	6.382	0.215
10	1772	6.382	0.215

To accelerate this process, the vessel of water containing the blank was subjected to reduced pressure between the fifth and sixth weighings listed in the table. This served to remove air from the pores of the metal and to allow the water to penetrate faster. After the seventh weighing the blank was allowed to stand overnight in the vessel of water before the weighings were resumed. The specific gravity of the

blank based on the first observed weight and the weight of the blank in air before immersion in water was 5.85. Its specific gravity based on the final weight at equilibrium and this same weight of the blank was 7.76. However, when the blank was dried after immersion in water it was found to weigh 7.047 grams as contrasted to its weigh of 7.109 grams before immersion. In the actual experiment the blank was removed from the water and allowed to stand exposed to the air at room temperature for 15 hours, at the end of which time its weight was found to be 7.050 grams. Then it was dried for an hour in an oven at 120° C. and on cooling was found to weigh 7.047 grams, which an additional drying in the oven for an hour did not change appreciably. The difference of 0.062 gram between the weight of the dry blank before and after immersion must be ascribed to a small amount of soluble corrosion products or other soluble material leached from the metal by the water. The specific gravity of the blank based on its first observed weight in water and the weight of the leached and dried blank was 6.11, which is perhaps the figure to be compared with the specific gravities of the blanks of the other tetradrachms, for this represents the apparent specific gravity of the blank before water had penetrated appreciably into the pores of the metal. Its specific gravity based on its final weight in water at equilibrium and the same weight of the blank was 8.25. Thus, several quite different figures for the specific gravity of this blank are possible in accordance with the particular weights selected for computation. The specific gravity 8.25 is nearer to that of the alloy itself, which theoretically should be about 9.68. The figure 6.11 represents an apparent porosity of about 36.9% and the figure 8.25 represents an apparent porosity of about 14.8%. This means that about 71% of the cavities or pores in the metal of the blank were open to penetration by water and about 29% were closed. In terms of the weight of the leached and dried blank, the weight of water absorbed, as measured by its apparent gain in weight on immersion, amounted to 4.26%. An approximate check on this result was obtained by soaking the blank thoroughly in water, allowing it to stand in air until no more water was apparent on its surface, weighing it, drying it completely, and weighing it again. The water thus found amounted to 4.78%. In terms of volume the percentage of water absorbed is much higher. From the

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gain in apparent weight in water, the volume of water absorbed was 0.299 cc., and the external volume of the blank based on a specific gravity of 6.11 was 1.153 cc., so that the volume of water absorbed amounted to 25.9% of that of the blank. In other words, the apparently solid metal of the blank absorbed about a fourth of its own volume of water. This result agrees fairly well with the figure on the change in apparent porosity on absorption of water. All these results serve to demonstrate the reality of the existence of cavities or pores in the metal of a sufficiently corroded ancient billon coin. In this particular coin an extensive system of connecting internal cavities or pores was evidently opened to penetration by water when the surface metal was filed off. Water was not absorbed when the coin itself was immersed in water, apparently because the pores were closed at the surface of the coin, and this may have been a result of polishing. However, the metal on the surface was very porous, as computation on the basis of 5.68 for the specific gravity of the coin and 6.11 for the specific gravity of the blank gave a specific gravity of 3.70 for the metal removed in the preparation of the blank.

As shown by the preceding examples, ancient billon coins have often undergone extensive internal corrosion with the formation of cavities and pores that have greatly reduced their original weight and specific gravity. Undoubtedly, the same coins have also undergone considerable external corrosion with the loss of metal from the surface, but measurements of billon coins in various states of preservation indicate that the diameter and thickness of severely corroded coins, after removal of crusts and layers of external corrosion products, are not much different from what they were originally. In other words, the volume of such coins has not been much altered in spite of a very considerable reduction in weight. Therefore, it should be possible to estimate, at least approximately, the original weight of a cleaned coin of this sort from its present weight, its present specific gravity, and its theoretical specific gravity by means of the following formula:

$$\text{Original Weight} = \frac{W_p \times S_t}{S_p}$$

Where, W_p is the present weight

S_p is the present specific gravity

S_t is the theoretical specific gravity.

Results of a computation of the original weights, by this formula, of the coins listed in Table XXXII and of the one coin of Ptolemy X just discussed, are shown in Table XXXVI. These estimated original weights are in approximate agreement with the known weights of the same types of coins in a fine state of preservation.

It might be supposed that this formula would not be of much practical use to the numismatist for estimating the original weight of a billon coin that is abnormally light in weight from internal corrosion, since the theoretical specific gravity required by the formula is derived in these examples from chemical analyses which involved destruction of the coins. However, no exact figures for the fineness and corresponding theoretical specific gravity are needed in order to estimate the original weight of such a coin with sufficient accuracy for most purposes, for, as shown in Table XXXVII, considerable

TABLE XXXVI
ESTIMATION OF THE ORIGINAL WEIGHT OF TETRADRACHMS
OF LOW WEIGHT AND SPECIFIC GRAVITY

No.	Observed Specific Gravity	Theoretical Specific Gravity	Present Weight Grams	Original Weight Grams
1	8.88	9.24	12.49	13.0
2	8.86	9.52	13.12	14.1
3	8.50	9.50	11.12	12.4
4	8.12	9.08	12.26	13.7
5	7.70	9.32	10.04	12.2
6	7.67	9.63	11.00	13.9
7	7.36	9.56	10.51	13.7
8	5.60	9.22	7.03	11.6
9	5.68	9.68	7.98	13.6

variations in these figures do not cause wide variations in this estimated weight. It will be seen that in all these hypothetical examples the range in estimated weight is the same, and that it amounts to only 0.3 gram. Therefore, if the average or usual fineness of a given type of coin is already known from previous assays or analyses, this may be used with some confidence to calculate the theoretical specific gravity of another coin of this type, and hence its original weight without destroying it. In fact, if the figure for the theoretical specific

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TABLE XXXVII

RESULTS OF THEORETICAL CALCULATIONS OF THE EFFECT OF ERROR IN THEORETICAL SPECIFIC GRAVITY ON THE COMPUTED ORIGINAL WEIGHT OF BILLON COINS OF ABNORMALLY LOW WEIGHT AND SPECIFIC GRAVITY

<i>Observed Specific Gravity</i>	<i>Present Weight Grams</i>	<i>Theoretical Specific Gravity</i>	<i>Corresponding Fineness</i>	<i>Estimated Original Weight Grams</i>
5.00	7.0	9.70	541	13.6
		9.65	510	13.5
		9.60	479	13.4
		9.55	447	13.4
		9.50	414	13.3
7.00	10.0	9.70	541	13.9
		9.65	510	13.8
		9.60	479	13.7
		9.55	447	13.6
		9.50	414	13.6
9.00	13.0	9.70	541	14.0
		9.65	510	13.9
		9.60	479	13.9
		9.55	447	13.8
		9.50	414	13.7

gravity of a given type of coin is based on the determination of the fineness of an example or examples in a good state of preservation, this figure may be better than one obtained from the determination by assay or analysis of the fineness of a severely corroded example. The percentage of silver in such a coin may be higher than it was originally because the base metals may have been selectively corroded at a higher rate than the silver. This is certainly probable on theoretical grounds, and analyses of coins of the same type in different states of preservation support this view. For example, Nos. 4 and 8 of Table XXXII are of identical type, but No. 4 had a fineness of 155, whereas No. 8, which was evidently more severely corroded, had a fineness of 225. Furthermore, the fineness of No. 4 is about normal for Alexandrian tetradrachms of the period, but that of No. 8 is somewhat high. It would appear, therefore, that this formula may be practically applied to the estimation of the original weight of light billon coins without destroying them.

Even though specific gravity measurements are not generally reliable for estimating the fineness of ancient billon coins, especially those that are corroded internally, they evidently may be very useful for obtaining other kinds of information, as has been demonstrated by some examples.

The fineness estimated from specific gravity is generally much closer to that determined by chemical analysis for electrolytically

TABLE XXXVIII

SPECIFIC GRAVITY AS AN INDEX OF THE FINENESS OF ELECTROLYTICALLY
CLEANED DRACHMS OF ORODES I

Coin No.	Specific Gravity	Silver Fineness Computed From Specific Gravity	Silver Fineness By Chemical Analysis	Difference In Fineness	Corrected Fineness From Specific Gravity	Corrected Difference In Fineness
1	10.00	722	748	— 26	772	+ 24
2	9.91	669	698	— 29	719	+ 21
3	9.86	639	742	— 103	689	— 53
4	9.75	572	652	— 80	622	— 30
5	9.73	560	582	— 22	610	+ 28
6	9.53	434	510	— 76	484	— 26
7	9.48	402	473	— 71	452	— 21
8	9.45	382	464	— 82	432	— 32
9	9.42	362	418	— 56	412	— 6
10	9.38	336	431	— 95	386	— 45
				Av. = — 64		Av. = — 16

cleaned ancient silver coins than for uncleaned coins or those that have been cleaned by other methods. The difference is especially noticeable for coins of moderately low fineness. Some examples are shown in Table XXXVIII. The coins of this table were all from the hoard mentioned at the beginning of this essay. They were cleaned by electrolysis in 2% sodium hydroxide solution, and some of them were further treated by a process, which has been described by the author,¹⁶ to remove spots and patches of reduced copper from their surfaces. They were also polished with fine sea sand before determin-

¹⁶ *Technical Studies in the Field of the Fine Arts*, III (1935), pp. 123-132.

ation of their specific gravities. The results in Table XXXVIII should be compared with those in Tables XXVIII and XXIX. Even though they are all too low, it is evident that they are generally much better. The only very poor result is that for No. 3, and, even if this one is included, the differences between the fineness estimated from specific gravity and that determined by analysis are over a much smaller range. Because of this much greater uniformity in the degree of error, a constant positive correction could be applied to each of the results to bring nearly all of them into the range of useful accuracy. The effect of an arbitrary correction of +50 degrees is shown in the last two columns of the table. With the exception of Nos. 3 and 10 the individual errors are now about 3% or less, and the average error is a fourth of what it was without this correction. The last four coins listed in the table were actually composed of billon, so that it would appear that the fineness of electrolytically cleaned billon coins, at least those not abnormally light in weight from internal corrosion or too low in fineness, may be estimated with some degree of success by means of specific gravity.

In Table XXXIX are shown the results obtained on the blanks of the same coins. Here it will be seen that the difference errors between the fineness estimated from specific gravity and that determined by

TABLE XXXIX

SPECIFIC GRAVITY AS AN INDEX OF THE FINENESS OF THE BLANKS OF
ELECTROLYTICALLY CLEANED DRACHMS OF ORODES I

<i>Blank No.</i>	<i>Specific Gravity</i>	<i>Silver Fineness Computed From Specific Gravity</i>	<i>Silver Fineness By Chemical Analysis</i>	<i>Difference In Fineness</i>
1	10.07	762	748	+ 14
2	9.97	704	698	+ 6
3	10.06	757	742	+ 15
4	9.92	675	652	+ 13
5	9.86	639	582	+ 57
6	9.78	590	510	+ 80
7	9.64	504	473	+ 31
8	9.56	453	464	— 11
9	9.52	430	418	+ 12
10	9.57	459	431	+ 26
				<u>Av. = + 24</u>

TABLE XL

OBSERVED SPECIFIC GRAVITY OF BLANKS OF DRACHMS OF ORODES I
COMPARED WITH SPECIFIC GRAVITY COMPUTED FROM CHEMICAL
COMPOSITION, AND ACTUAL FINENESS COMPARED WITH FINENESS
COMPUTED FROM THEORETICAL SPECIFIC GRAVITY

In Table XLI are shown the results of calculations of the specific gravity of the metal removed from the coins in preparing the blanks. By comparing these results with those given in Table XXXI it will be seen that the specific gravity of the surface metal of these electrolytically cleaned coins was higher and more uniform generally. In only 30% of these coins does the specific gravity of this metal fall below

9.00, whereas the proportion for those in ordinary condition is 50%. Moreover, in none of the electrolytically cleaned coins does it fall below 8.00. Still more significant, however, are the differences in the ratios of the specific gravity of the metal removed to that of the corresponding blank for the coins of the two lots. It is evident that this is generally lower for the coins of Table XXXI than for those of Table XLI. The actual average figures are 0.865 and 0.930, respectively. All this shows that the surface metal of these electrolytically cleaned coins was much less porous.

In general, the results of these experiments indicate that the specific gravity of the surface metal of silver coins cleaned by electrolytic reduction is generally higher than that of untreated coins or those cleaned by other methods. The reason for this appears to be that some of the cavities or pores in the metal on or near the surface are filled or partly filled with new metal derived from the reduction of the corrosion products on the surface of the coin. Since porosity of the surface metal is the chief cause of error in estimating the fineness of ancient silver coins by means of specific gravity, this explains why better results are usually obtained on coins that have been cleaned electrolytically.

From the average diameter, the weights of the coin and the blank, and the corresponding specific gravities, it was possible to calculate

TABLE XLI

AVERAGE SPECIFIC GRAVITY OF METAL REMOVED FROM ELECTROLYTICALLY
CLEANED DRACHMS OF ORODES I IN PREPARATION OF BLANKS

<i>Coin No.</i>	<i>Weight of Coin Grams</i>	<i>Weight of Blank Grams</i>	<i>Specific Gravity of Coin</i>	<i>Specific Gravity of Blank</i>	<i>Average Specific Gravity of Metal Removed</i>
1	4.020	3.737	10.00	10.07	9.13
2	3.931	2.143	9.91	9.97	9.83
3	3.817	3.299	9.81	10.06	8.46
4	3.851	3.404	9.75	9.92	8.61
5	3.699	1.973	9.73	9.86	9.59
6	3.575	1.999	9.53	9.78	9.23
7	3.689	2.063	9.48	9.64	9.29
8	3.838	3.442	9.45	9.56	8.57
9	3.752	1.717	9.42	9.52	9.34
10	3.455	2.135	9.38	9.57	9.09

by ordinary geometry the average depth or thickness of the layer of metal removed from each of these electrolytically cleaned drachms in preparing the blanks. The results are shown in Table XLII together with the corresponding data on the specific gravity of the metal removed and the ratio of this to the specific gravity of the blank. It so happened that much thinner layers of metal were removed from four of these coins than from the others, and consequently they are grouped as shown in the table. For those in Group A it will be seen that both the specific gravity of the metal removed and the ratio of this to the specific gravity of the blank are much lower on the average than for those of Group B. This indicates that the layers of metal near the surface were more porous on the average than those farther below the surface. However, these results, especially the individual results for Group A, also show that the metal on, or extremely close, to the surface had a higher specific gravity, in other words was less porous, than that slightly farther below. Moreover, it is evident that the metal still farther below had a much higher specific gravity, and was much less porous, than the metal of either the top or inter-

TABLE XLII

RELATIONSHIP OF THICKNESS OF METAL REMOVED FROM DRACHMS
OF ORODES I TO SPECIFIC GRAVITIES

<i>Group</i>	<i>Coin No.</i>	<i>Average Thickness of Metal Removed mm.</i>	<i>Specific Gravity of Metal Removed</i>	<i>Ratio of Specific Gravity of Metal Removed to That of Blank</i>
A	1	0.05	9.13	0.907
	8	0.07	8.57	0.896
	4	0.08	8.61	0.868
	3	0.10	8.46	0.841
		Av. = 0.08	Av. = 8.69	Av. = 0.878
B	10	0.23	9.09	0.950
	6	0.27	9.23	0.944
	7	0.28	9.29	0.964
	5	0.29	9.59	0.973
	2	0.29	9.83	0.986
	9	0.35	9.34	0.981
		Av. = 0.29	Av. = 9.40	Av. = 0.966

mediate layers, and that the metal of the deepest layers corresponded in specific gravity to that of the solid metal of the blanks. Probably the higher specific gravity of the metal on, or extremely close, to the surface was due to mechanical consolidation of porous metal when the coins were polished. Calculations of this sort should be of value for determining what thickness of metal should be removed from ancient silver coins in order to obtain for analysis metal that is truly representative of the composition of the original alloy.

IX. SPECIFIC GRAVITY AND FINENESS OF THE COINS FROM THE HOARD

The rather satisfactory agreement (Table XXXVIII) between the corrected fineness estimated from specific gravity and that found by chemical analysis for the 10 electrolytically cleaned drachms of Orodes I from the hoard indicated that the specific gravity measurements that were made on the remaining 134 coins of the part of the hoard that was available should be a fairly reliable index of their fineness, for all these had also been cleaned in the same way. Even if incorrect results were thus obtained on a few individual coins, the results as a whole should be valid because of the considerable number of coins measured. The observed weights and specific gravities are listed in Table XLIII in decreasing order of specific gravity and fineness. The 10 coins that were analyzed are also included in this tabulation, and are indicated by asterisks. As with the coins that were analyzed, the theoretical fineness calculated from the observed specific gravity was arbitrarily raised 50 degrees for each coin in order to obtain the estimated actual fineness. Furthermore, instead of giving the fineness figures to the nearest unit as calculated, they were all rounded off to the nearest 5 degrees, for the accuracy of the method is certainly no better than this, and the appearance of fictitious accuracy is thus avoided. Actually, however, even if these figures had neither been corrected nor rounded off, the obvious conclusions about the relative fineness and range of fineness in this group of coins would have been very nearly the same.

As is shown in Table XLIV, the averages of all the results for the weight, fineness, and silver content in Table XLIII are in fairly close agreement with those for the 13 drachms of Orodes I that were analyzed chemically. They do not agree so well with those of the 10 from the hoard that were analyzed, but this is because these 10 coins were not truly representative of the large group of coins from the hoard, for it is evident that a disproportionate number of coins of low fineness happened to be selected for analysis. This selection was not entirely accidental, as relatively poor coins were naturally chosen for

TABLE XLIII

WEIGHT, SPECIFIC GRAVITY, FINENESS, AND SILVER CONTENT
OF DRACHMS OF ORODES I FROM HOARD

<i>Serial No.</i>	<i>Type</i>	<i>Weight Grams</i>	<i>Specific Gravity</i>	<i>Fineness by Theoretical Formula</i>	<i>Estimated Actual Fineness</i>	<i>Silver Content Grams</i>
1	A	3.92	10.10	780	830	3.25
2	A	3.97	10.09	775	825	3.28
3	A	3.94	10.08	770	820	3.23
4	A	4.01	10.07	760	810	3.25
5	A	3.91	10.05	750	800	3.13
6	A	3.90	10.03	740	790	3.08
7	A	3.89	10.03	740	790	3.07
8	A	3.82	10.03	740	790	3.02
9	A	3.85	10.01	730	780	3.00
10*	A	4.02	10.00	720	770	3.10
11	A	3.87	9.99	715	765	2.96
12	A	3.86	9.99	715	765	2.95
13	A	3.82	9.99	715	765	2.92
14	A	3.99	9.98	710	760	3.03
15	C	3.79	9.98	710	760	2.88
16	A	3.98	9.97	705	755	3.05
17	A	3.85	9.96	700	750	2.89
18	C	3.81	9.96	700	750	2.86
19	A	4.06	9.94	685	735	2.98
20	A	3.84	9.94	685	735	2.82
21	A	3.80	9.94	685	735	2.79
22	A	3.78	9.93	680	730	2.76
23	C	3.98	9.93	680	730	2.91
24	A	4.00	9.92	675	725	2.90
25	A	3.95	9.92	675	725	2.86
26	C	4.01	9.92	675	725	2.91
27	A	3.94	9.91	670	720	2.84
28	A	3.89	9.91	670	720	2.80
29*	C	3.93	9.91	670	720	2.83
30	?	3.87	9.91	670	720	2.79
31	A	3.72	9.90	665	715	2.66
32	C	3.91	9.90	665	715	2.80
33	A	4.02	9.88	650	700	2.81
34	A	3.93	9.88	650	700	2.75
35	A	3.87	9.88	650	700	2.71
36	A	3.86	9.88	650	700	2.70
37	A	3.83	9.88	650	700	2.68

Specific Gravity of Coins from Hoard

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<i>Serial No.</i>	<i>Type</i>	<i>Weight Grams</i>	<i>Specific Gravity</i>	<i>Fineness by Theoretical Formula</i>	<i>Estimated Actual Fineness</i>	<i>Silver Content Grams</i>
38	C	3.91	9.88	650	700	2.74
39	A	3.92	9.87	645	695	2.72
40	A	3.77	9.87	645	695	2.62
41	C	3.86	9.87	645	695	2.68
42	A	3.90	9.86	640	690	2.69
43	A	3.85	9.86	640	690	2.66
44	A	3.83	9.86	640	690	2.64
45*	A	3.82	9.86	640	690	2.64
46	A	3.95	9.85	635	685	2.71
47	A	3.78	9.85	635	685	2.59
48	C	3.95	9.85	635	685	2.71
49	A	3.79	9.84	625	675	2.56
50	B	3.89	9.84	625	675	2.63
51	A	3.94	9.83	620	670	2.64
52	A	3.92	9.83	620	670	2.63
53	C	3.99	9.83	620	670	2.67
54	C	3.83	9.82	615	665	2.55
55	F	3.91	9.81	610	660	2.68
56	A	3.92	9.80	605	655	2.57
57	B	3.82	9.80	605	655	2.50
58	C	3.80	9.80	605	655	2.49
59	A	3.84	9.79	595	645	2.48
60	B	3.90	9.79	595	645	2.52
61	C	3.84	9.79	595	645	2.48
62	A	3.84	9.78	590	640	2.46
63	B	3.62	9.78	590	640	2.32
64	A	3.92	9.77	585	635	2.49
65	A	3.91	9.77	585	635	2.48
66	A	3.75	9.77	585	635	2.38
67	B	3.83	9.77	585	635	2.43
68	B	3.81	9.77	585	635	2.42
69	C	3.78	9.77	585	635	2.40
70	C	3.90	9.76	580	630	2.46
71	A	3.88	9.75	575	625	2.43
72*	B	3.85	9.75	575	625	2.41
73	B	3.78	9.75	575	625	2.36
74	C	3.97	9.75	575	625	2.48
75	A	3.97	9.74	565	615	2.44
76	B	3.90	9.74	565	615	2.40
77	?	3.77	9.74	565	615	2.32
78	A	3.88	9.73	560	610	2.37

<i>Serial No.</i>	<i>Type</i>	<i>Weight Grams</i>	<i>Specific Gravity</i>	<i>Fineness by Theoretical Formula</i>	<i>Estimated Actual Fineness</i>	<i>Silver Content Grams</i>
79	B	3.96	9.73	560	610	2.42
80*	C	3.70	9.73	560	610	2.26
81	C	3.64	9.73	560	610	2.22
82	A	3.93	9.72	555	605	2.38
83	A	3.87	9.71	550	600	2.32
84	C	3.83	9.71	550	600	2.30
85	A	3.83	9.70	540	590	2.26
86	A	3.75	9.70	540	590	2.21
87	C	3.61	9.70	540	590	2.13
88	B	3.99	9.69	535	585	2.33
89	C	3.87	9.69	535	585	2.26
90	C	3.78	9.69	535	585	2.21
91	B	4.05	9.68	530	580	2.35
92	B	3.68	9.68	530	580	2.13
93	F	3.85	9.68	530	580	2.23
94	A	3.80	9.67	525	575	2.19
95	B	3.73	9.67	525	575	2.14
96	B	3.89	9.66	515	565	2.20
97	B	3.88	9.66	515	565	2.19
98	C	3.77	9.66	515	565	2.13
99	B	3.91	9.65	510	560	2.19
100	B	3.88	9.65	510	560	2.17
101	?	3.74	9.65	510	560	2.09
102	B	4.02	9.64	505	555	2.23
103	C	3.73	9.64	505	555	2.07
104	A	3.75	9.63	495	545	2.04
105	A	3.74	9.63	495	545	2.04
106	A	3.67	9.63	495	545	2.00
107	C	3.93	9.63	495	545	2.14
108	B	3.92	9.62	490	540	2.12
109	C	3.93	9.62	490	540	2.12
110	A	3.87	9.61	485	535	2.07
111	A	3.83	9.60	480	530	2.03
112	B	4.02	9.60	480	530	2.13
113	B	3.94	9.60	480	530	2.09
114	B	3.86	9.60	480	530	2.05
115	B	3.74	9.60	480	530	1.98
116	C	3.74	9.60	480	530	1.98
117	A	3.87	9.59	470	520	2.01
118	C	3.72	9.59	470	520	1.93
119	B	3.71	9.57	460	510	1.93

<i>Serial No.</i>	<i>Type</i>	<i>Weight Grams</i>	<i>Specific Gravity</i>	<i>Fineness by Theoretical Formula</i>	<i>Estimated Actual Fineness</i>	<i>Silver Content Grams</i>
120	B	3.82	9.56	455	505	1.93
121	B	3.82	9.56	455	505	1.93
122	C	3.54	9.56	455	505	1.79
123	E or F	3.92	9.56	455	505	1.98
124	A	3.84	9.55	445	495	1.90
125	B	3.84	9.55	445	495	1.90
126	B	3.58	9.55	445	495	1.77
127	C	3.89	9.55	445	495	1.93
128	B	3.85	9.54	440	490	1.89
129	B	3.90	9.53	435	485	1.89
130	B	3.86	9.53	435	485	1.87
131*	B	3.57	9.53	435	485	1.73
132	B	3.78	9.49	405	455	1.72
133	B	3.66	9.49	405	455	1.67
134	B	3.63	9.48	400	450	1.63
135*	?	3.69	9.48	400	450	1.66
136	B	3.69	9.47	395	445	1.64
137	C	3.57	9.47	395	445	1.59
138	C	3.72	9.46	390	440	1.64
139*	C	3.84	9.45	380	430	1.65
140	A	3.75	9.44	375	425	1.59
141	C	3.26	9.42	360	410	1.34
142*	?	3.75	9.42	360	410	1.54
143	C	3.77	9.40	350	400	1.51
144*	?	3.45	9.38	335	385	1.33
Av.		3.84			620	2.38

TABLE XLIV

COMPARISON OF DATA ON DRACHMS OF ORODES I THAT WERE ANALYZED WITH DATA ON THOSE NOT ANALYZED

<i>Measurement</i>	<i>The 13 Coins That Were Analyzed</i>	<i>The 10 Coins From the Hoard That Were Analyzed</i>	<i>All the Coins From the Hoard</i>
Average Weight, Grams	3.79	3.76	3.84
Average Silver Content, Grams	2.32	2.17	2.38
Average Fineness	607	572	620
Range in Fineness	338	330	445

this purpose, and such coins were in poorer condition than the others because they were lower in fineness and had been affected more by corrosion. An entirely random selection should have provided specimens for analysis which were more representative. From the results in Table XLIII it is obvious to what extent conclusions about fineness may be in error if they are based on the assay or analysis of only one or two specimens of a type of ancient silver coin that was issued during a period of debasement. A number of representative specimens of such coins should be analyzed if entirely correct conclusions are to be reached, and it is evident from the data in Table XLIII that they could be selected on the basis of specific gravity measurements. This is another application of specific gravity measurements in the technical study of ancient coins, aside from their use as a direct index of fineness.

As might be expected, the range of fineness in the debased drachms of Orodes I found by the examination of all the specimens in the large group from the hoard is considerably greater than that found by the chemical analysis of all 13 specimens or the 10 from the hoard. This shows the importance of examining as large a number of coins of a given type as possible in order to find the entire range of variation in fineness, and also the importance of a method that will make possible the estimation of the fineness of a very large number of coins of a given type, or all the coins in a hoard, without destroying more than a few specimens by assay or chemical analysis.

The designation of the coins in Table XLIII by type is in accordance with the classification in *B. M. C. Parthia*, which is based on the nature and number of the adjunct symbols that appear in the field on the obverse of the drachms ascribed to Orodes I. Nearly all the coins in this portion of the hoard are of Type A, B, or C, and it is not unlikely that the same was true of the hoard as a whole. Only 3 coins are of other types, and 6 coins could not be certainly identified as to type because they were struck off center. There are 63 coins of Type A, 37 of Type B, and 35 of Type C, so that coins of the first type are predominant with the other two in about equal proportion. A glance at Table XLIII is sufficient to show that the coins of these three principal types differ considerably in degree and range of fineness. Data on the maximum, minimum, and average weight, fineness, and

silver content according to type are shown in Table XLV. It will be seen that the maximum, minimum, and average weights of the coins of the three types are in the descending order, A, B, C. However, both the maximum and average figures differ so little that it seems doubtful that they are significant from the standpoint of weight standards. In general, low weight is associated with low fineness and in the group of coins as a whole regardless of type there is a good correlation between fineness and weight, as is shown in Table XLVI. This suggests strongly that the coins of all three types were issued on the same weight standard and that they lost weight to different degrees by corrosion because of differences in fineness. Furthermore, the differences in weight are small as compared to the differences in fineness. All this shows that these coins were not debased by lowering the

TABLE XLV

SUMMARY OF DATA ON DRACHMS FROM HOARD ACCORDING TO TYPE

<i>Measureurent</i>	<i>Type A</i>	<i>Type B</i>	<i>Type C</i>
Maximum Weight, Grams	4.06	4.05	4.01
Minimum Weight, Grams	3.72	3.57	3.26
Average Weight, Grams	3.87	3.83	3.80
Maximum Fineness	830	675	760
Minimum Fineness	425	445	400
Average Fineness	680	550	600
Maximum Silver Content, Grams	3.28	2.63	2.88
Minimum Silver Content, Grams	1.59	1.63	1.34
Average Silver Content, Grams	2.64	2.11	2.29

TABLE XLVI

CORRELATION OF WEIGHT AND FINENESS IN DRACHMS OF THE HOARD

<i>Fineness</i>	<i>Average Weight</i> <i>Grams</i>
Above 750	3.91
750-705	3.90
700-655	3.88
650-605	3.84
600-555	3.83
550-505	3.82
500-455	3.78
450 and Below	3.65

weight standard but only by decreasing the fineness of the metal. Both the maximum fineness and average fineness of the coins of the three types are in the descending order A, C, B, but the minimum fineness is in the order B, A, C. The same holds for the silver content by weight.

The distribution of degree of fineness according to type is shown in Table XLVII for ranges or steps of both 100 degrees and 50 degrees. On Plate I the same data are shown graphically in terms of percentage of coins in each range of 50 degrees. Although it is not possible to treat these data by any strict statistical method because the numbers of the units of each type and in each category are too small, certain definite qualitative conclusions may certainly be drawn. It will be seen that a much higher proportion of the coin of Type A are in the higher ranges of fineness as compared to those of either Type B or Type C, and that, conversely, much higher proportions of the coins of these other two types are in the lower ranges. Nearly 40% of the coins of Type A are above 700 fine, none of Type B, and only about 17% of Type C. On the other hand, only about 3% of those of Type A are 500 fine or less, as contrasted to 27% of Type B and about 17% of Type C. However, there is considerable overlapping in the distribution of fineness, for over 50% of the coins of each of these types are between 700 and 500 fine. The median fineness is 695 for Type A, 555 for Type B, and 610 for Type C. There are also distinct differences in both the range and the pattern of the distribution of fineness. The range for Types A and C is about the same, but that of Type B is smaller, and the fineness of the coins of Type B is distributed in a much more regular manner.

The distribution of the silver content of the coins according to type is shown in Table XLVIII for ranges or steps of 0.40 gram and 0.20 gram. On Plate II the same data are shown graphically in terms of percentage of coins in each range of 0.20 gram. As might be expected, the distribution of silver content follows the same general pattern as the distribution of fineness, except that the pattern of the distribution of silver content is more regular for Type A but more irregular for Types B and C. The median silver content is 2.66 grams for Type A, 2.13 grams for Type B, and 2.26 grams for Type C.

However, the figures in Table XLVIII and the percentage distribution shown on Plate II are based on the present weights of the coins,

TABLE XLVII

DISTRIBUTION OF FINENESS OF DRACHMS FROM THE
HOARD ACCORDING TO TYPE

<i>Fineness</i>	<i>Number in Range</i>		
	<i>Type A</i>	<i>Type B</i>	<i>Type C</i>
850-755	15	0	1
750-655	27	2	11
650-555	13	17	12
550-455	8	16	6
450-355	0	2	5
850-805	4	0	0
800-755	11	0	1
750-705	10	0	5
700-655	17	2	6
650-605	9	8	6
600-555	4	9	6
550-505	6	8	5
500-455	1	8	1
450-405	1	2	4
400-355	0	0	1

TABLE XLVIII

DISTRIBUTION OF SILVER CONTENT OF DRACHMS FROM
THE HOARD ACCORDING TO TYPE

<i>Silver Content</i> <i>Grams</i>	<i>Number in Range</i>		
	<i>Type A</i>	<i>Type B</i>	<i>Type C</i>
3.30-3.91	16	0	2
2.90-2.51	26	2	9
2.50-2.11	13	19	14
2.10-1.71	7	13	5
1.70-1.31	1	3	5
3.30-3.11	5	0	0
3.10-2.91	11	0	2
2.90-2.71	13	0	6
2.70-2.51	13	2	3
2.50-2.31	10	10	5
2.30-2.11	3	9	9
2.10-1.91	6	6	4
1.90-1.71	1	7	1
1.70-1.51	1	3	4
1.50-1.31	0	0	1

and because of the rather strong probability of a differential loss of weight from corrosion, as previously suggested, it seems likely that data more nearly representative of the original distribution of the silver content in the three types would be obtained if it were assumed that all the coins were issued on the same intended weight standard or norm. The distribution on the assumption of a uniform original weight of 4.00 grams is shown in Table XLIX, and the percentage distribution on this same assumption is shown graphically on Plate III. Of course, the same patterns of percentage distribution would be obtained regardless of what weight was assumed to be the norm. It will be seen that the patterns of distribution are now more regular than before, which might possibly be another indication that the coins of all three types were intended to be of the same weight. On the basis of this calculation, the median silver content is 2.78 grams for Type A, 2.22 grams for Type B, and 2.44 grams for Type C. Though the order of the median silver content of the three types is not changed, that of Type B is now slightly lower relative to the others, and that of Type C somewhat higher.

Even more significant, perhaps, are the similar differences in the fineness and silver content of drachms of the three types with the same monogram or mintmark. In Table L are shown figures for the fineness and silver content of drachms of these types with the monogram $\overline{\text{A}}$, and in Table LI are shown the figures for those with the monogram $\overline{\text{P}}$. It will be seen that here again the drachms of Type A have the highest maximum and average fineness and the highest maximum and average silver content, and that those of Type C are next in order, with those of Type B last. However, the average fineness and silver content of the drachms of Types A and C with the monogram $\overline{\text{A}}$ are so close that the differences may not be significant. The drachms of Type C have the highest minimum fineness, with those of Type A next, and those of Type B last. The range of fineness and silver content of the drachms of Type A is the greatest, with those of Type B next in order, and those of Type C last. It might be supposed that the different ranges shown in Table L are simply the result of the different number of coins of each type, but this does not seem to be true, for the order is the same in Table LI where the numbers are nearly the same. Drachms bearing other monograms or

TABLE XLIX

DISTRIBUTION OF SILVER CONTENT OF DRACHMS FROM
THE HOARD ACCORDING TO TYPE ON THE ASSUMPTION
THAT THE COINS HAD THE SAME ORIGINAL WEIGHT

<i>Silver Content</i> <i>Grams</i>	<i>Number in Range</i>		
	<i>Type A</i>	<i>Type B</i>	<i>Type C</i>
3.50-3.11	9	0	0
3.10-2.71	29	0	9
2.70-2.31	16	13	13
2.30-1.91	8	20	8
1.90-1.51	1	4	5
3.50-3.31	1	0	0
3.30-3.11	8	0	0
3.10-2.91	11	0	3
2.90-2.71	18	0	6
2.70-2.51	9	6	6
2.50-2.31	7	7	7
2.30-2.11	6	11	5
2.10-1.91	2	9	3
1.90-1.71	0	4	3
1.70-1.51	1	0	2

mintmarks show like trends for the differences in fineness and silver content among the coins of the three types, but similar complete comparisons are not possible, as one or two of the types of such drachms with a given monogram either are missing or are too few in number.

To what extent the observed differences in fineness and silver content among the three principal types of drachms from the hoard are significant from the numismatic standpoint depends largely on whether the coins of the lot studied in this investigation are truly representative of the fineness of the coins of these three types in the entire hoard, whether those in the hoard were truly representative of the fineness of those in circulation, and whether the coins of the three types available to the hoarder were truly representative of the whole issue of these three types, or at least the issue up to the time the hoard was completed. It is known that the part of the hoard purchased by Dr. J. Christy Wilson contained a representative selection of the coins of the hoard, that most of this part was acquired by the

TABLE L

FINENESS AND SILVER CONTENT OF DRACHMS
OF THE THREE TYPES WITH MINTMARK $\overline{\text{P}}$

<i>Measurement</i>	<i>Type A</i>	<i>Type B</i>	<i>Type C</i>
<i>Number of Coins in Group</i>	36	22	7
Maximum Fineness	790	675	760
Minimum Fineness	495	455	585
Average Fineness	670	550	655
Range in Fineness	345	220	175
Maximum Silver Content, Grams	3.07	2.63	2.88
Minimum Silver Content, Grams	1.90	1.72	2.26
Average Silver Content, Grams	2.61	2.10	2.56
Range in Silver Content, Grams	1.17	0.91	0.62

References in B. M. C. Parthia

Type A. Pp. 74-75, Nos. 38-45; Plate XV, Nos. 3 and 4.

Type B. P. 79, No. 93; Plate XVI, No. 1.

Type C. Pp. 82-83, Nos. 123-126; Plate XVI, No. 10.

TABLE LI

FINENESS AND SILVER CONTENT OF DRACHMS
OF THE THREE TYPES WITH MINTMARK ΣP

<i>Measurement</i>	<i>Type A</i>	<i>Type B</i>	<i>Type C</i>
<i>Number of Coins in Group</i>	8	6	6
Maximum Fineness	825	635	730
Minimum Fineness	545	445	610
Average Fineness	715	530	670
Range in Fineness	280	190	120
Maximum Silver Content, Grams	3.28	2.43	2.91
Minimum Silver Content, Grams	2.04	1.64	2.22
Average Silver Content, Grams	2.80	1.99	2.58
Range in Silver Content, Grams	1.24	0.79	0.69

References in B. M. C. Parthia

Type A. P. 75, No. 55; Plate XV, No. 5.

Type B. P. 81, No. 112.

Type C. P. 84, No. 144.

Princeton University Library, and that the 135 coins of the three types studied in this investigation constituted the major part of the lot at Princeton. However, 31 of the finest specimens of all types of

the drachms of Orodes I were placed in the collection there and were not included in the present investigation. Because of their fine state of preservation, these selected coins are probably higher in fineness on the average than the remainder classed as duplicates. However, not all of these selected coins were of Types A, B, and C, and since the number of coins of these types thus excluded is small compared to the 135 that were examined, it is likely that the results here obtained would have been little changed if they had been included. Possibly the ranges of fineness and silver content would have been slightly extended upwards for each type, with a corresponding slight increase in the average fineness and silver content, but it is doubtful that there would have been any appreciable change in the relative fineness and silver content of the coins of the three types. On the whole, therefore, it is highly probable that the lot here studied is fairly representative of these coins in the hoard. Whether those in the hoard represent the entire range of fineness and the true average fineness of any or all these types is quite uncertain for a variety of reasons. The period during which the hoard was assembled may have coincided with the entire period of the issue of one of these types and not of the other two, or of two of them and not the remaining one. Moreover, the coins may have been collected at irregular intervals, that is, many more at one time than at another, although the rather regular percentage distribution of the fineness and corrected silver content of the coins of the three types seems to indicate the contrary. It is also possible that the hoarder preferentially selected coins of one or two of these types, so that their relative numbers in the lot here investigated, and hence in the hoard itself, bear no relationship to the relative abundance of the types available to the hoarder, or to the abundance of these types in general. However, selection on this basis does not seem probable. That there was any selection on the basis of fineness is very improbable, since the new or relatively new coins coming into the hands of the hoarder would have had the same superficial appearance regardless of differences in fineness. On the whole, it seems rather probable that the coins of the large lot here investigated are fairly representative of the relative fineness of the coins of these three types available to the hoarder.

In spite of the uncertainties just discussed, some definite con-

clusions of numismatic significance may be based on the technical data obtained on the coins of the lot from the hoard. It has already been demonstrated from the chemical analyses that these coins were debased. The specific gravity measurements indicate the same fact, for these show that about 15% of the coins as a whole are composed of billon, or about 3% of Type A, about 27% of Type B, and about 17% of Type C. The chemical analyses show that the coins were deliberately debased, and the wide range of fineness of all these coins and of the coins of each of these three types is also an indication of deliberate debasement, for it is very improbable that such a wide variation in the proportion of silver could have been caused by mere carelessness on the part of the coiners. According to the evidence at present available, ancient coiners in general were able to control the fineness of silver coins within rather narrow limits, and no lack of proper control is indicated for other Parthian issues. The debasement of these coins differs in one important respect from the debasement of other series of ancient silver coins about which we have sufficient information. The debasement of Roman Imperial denarii, Alexandrian tetradrachms, and Parthian tetradrachms followed a slow progressive course that extended over some two centuries, but the debasement of these Parthian drachms of Orodes I obviously occurred in a much shorter time. Since his whole coinage extended over a period of twenty years at the most, and consisted of a considerable number of classes or types that were evidently issued in some sort of systematic chronological order, the period of issue of each class or type must necessarily have been brief, and for some of them it may have been less than a year. This means that some extraordinary circumstances must have caused the severe and very rapid debasement of the drachms of each of the three types here considered.

In general, as is shown by various examples in the history of modern states, the rapid and severe debasement of a coinage is usually caused by the disruption of economic life that accompanies or follows intensive warfare, and there is no reason to suppose that the same cause and effect were not operative in ancient states such as Parthia. It is known that the first part of the reign of Orodes I was a time of great civil strife between Orodes and his brother Mithradates III. In-

deed, according to McDowell,¹⁷ the supreme power alternated between the two brothers. At the death of their father Phraates III, Mithradates succeeded to the throne in 57 B.C. but was soon deposed by Orodes. In the next year Mithradates seized the throne but after a short interval Orodes again became the supreme ruler, and, finally, on the death of his brother in 54 B.C. became the sole ruler. In the very next year the first serious military clashes began between the Parthian and Roman empires, for at that time Parthia was invaded by the army of the Roman Proconsul Crassus who was decisively defeated at the battle of Carrhae in 53 B.C.¹⁸ This was soon followed by the Parthian invasion of Syria in 51–50 B.C. Thus the civil wars were followed by foreign wars, and this severe and prolonged warfare may have been in itself a sufficient primary cause of the debasement of the coinage.

The rate of issue of Parthian drachms, in other words the volume of these coins coming into circulation, appears from the available evidence to have been unusually high during the reign of Orodes I. McDowell¹⁹ states that a slow steady increase in rate of issue occurred up to the reign of Phraates III, and that from about 70 B.C. to 38/37 B.C. the rate abruptly increased about threefold. During the reign of Phraates IV (37–3½ B.C.) the rate dropped back to about what it had been prior to 70 B.C., and after this the rate of issue of drachms remained uniform at a still lower level. McDowell²⁰ attributes the unusually high rate of issue to greatly increased transit trade between Iran and Central Asia, India, and China. The closer control by Parthia under Orodes I of trade outlets to the Mediterranean may have further increased such commerce and the volume of coinage required. Nevertheless, the military events between 57 B.C. and 50 B.C. may have had the major influence on the volume of coinage required by the economic situation during the reign of Orodes I. It may well have been that the available supply of pure silver simply could not keep pace with the increased demand for coins during his reign. Since

¹⁷ McDowell, R. H., *Coins from Seleucia on the Tigris*, pp. 215–216. McDowell designates this Orodes as Orodes II in view of the possibility that there was a previous Orodes, who was a son of Mithradates II, and who ruled briefly about 80 B.C.

¹⁸ Sykes, P. M., *A History of Persia* (London, 1915), I, pp. 373–380.

¹⁹ *Op. cit.*, pp. 170–171.

²⁰ *Op. cit.* p. 200.

there was no reduction of the weight standard for the drachm, the only way by which the demand could then be met would be by the debasement of the coinage silver.

From McDowell's interpretation²¹ of the significance of the legends on the reverse of the drachms of Mithradates III and Orodes, from his attribution of certain classes or types to one ruler or the other, from the legends on the drachms of Types A, B, and C of the lot here considered, and from catalogue descriptions of other drachms of these types, it would appear that they all belong to his fourth class for Orodes and were not issued before Orodes became sole ruler in 54 B.C. That the drachms of these three types were issued concurrently to any extent is doubtful in view of the presence of so many of the same mintmarks on the drachms of all three types. Though only a few of the same mintmarks occur in the drachms of all three types in this lot, the listings in various catalogues show clearly enough that a large proportion of the principal or more common mintmarks occur on all three types and that others appear on two of the types. Since the find spot of the hoard, which this lot represents, lies in the far north-western corner of the region occupied by the Parthian Empire and since the hoard was evidently accumulated during a short period of time, it is hardly to be expected that this lot would contain drachms of all three types from all the numerous mints. The presence of mintmarks common to all three types is therefore indicative of their consecutive issue, for it seems very unlikely that the same mint would issue drachms of different types simultaneously. Nevertheless, because of slowness of communications, or some other cause, there may have been some overlapping of the periods of issue of the drachms of these types at the various mints considered as a whole.

It seems rather probable that the issue of the earliest of these types began in 54 B.C. or very shortly after, for this would seem to be the first issue of drachms after Orodes became sole ruler in that year. When the issue of the latest of the three types terminated is less easy to estimate, as information is lacking on the length of period of issue of any of these types. Possibly the different ranges of fineness or silver content of the drachms of the three types from two of the mints, shown in Tables L and LI, are a clue to the relative lengths of

²¹ *Op. cit.*, pp. 213-214.

the periods of issue. If debasement occurred at about the same rate for each of these types, a greater range of fineness or silver content would indicate a longer period of issue. On this assumption, the drachms of Type A would appear to have been issued over a longer period than those of either Type B or Type C, and those of Type B over a longer period than those of Type C. The ranges of fineness and silver content of the drachms of the three types in the entire lot, shown by the data in Tables XLV, XLVII, XLVIII, and XLIX, would also appear to indicate that those of Type A were issued over a longer period than those of Types B or C. However, the same data also appear to indicate that those of Type C were issued over a longer period than those of Type B. The larger number (63) of drachms of Type A in the lot may also be indicative of a longer period of issue for the coins of this type, whereas the approximately equal numbers (37 and 35, respectively) of the drachms of Type B and Type C may be indicative of shorter and approximately equal periods of issue. However, these numbers are a valid index of the relative periods of issue only if the rate of issue of the drachms of each type was about equal and if the drachms of the lot are a truly representative sample of the numbers of drachms of these types that were issued. On the whole, it seems probable that the drachms of Type A were issued over a longer period than those of either of the other two types, and that the lengths of the periods of issue of the drachms of Types B and C relative to each other is uncertain. However, the periods of issue of both were probably short, and the total length of the periods of issue of the drachms of these two types may have been about the same as that for the drachms of Type A alone. Since there were still other classes or types of drachms of Orodes I that were evidently issued later in the reign of this ruler, the issue of the latest of the Types A, B, and C must have terminated considerably before the end of his reign. It may have been as early as 50 B.C. or as late as 40 B.C., though some intermediate date such as 45 B.C. is probably nearer the truth.

The order of the issue of Types A, B, and C cannot be established with certainty from the technical data. However, since a higher fineness and silver content is normally associated with an earlier time of issue when debasement occurs during the reign of a ruler, the drachms of Type A would clearly appear, from the data in Tables XLIII,

XLV, XLVII, XLVIII, XLIX, L, and LI, to be the first in time of issue. No such clear distinction of order of issue for Types B and C is apparent from these same data. The higher average fineness and silver content of the drachms of Type C seems to be an indication that they were issued before those of Type B. On the other hand, the most debased drachms in the lot are of Type C, and this would appear to indicate the reverse order. The truth may be that the consecutive periods of issue of the drachms of these two types were so brief that no clear distinction as to order of issue should be expected from the data on their fineness or silver content. In general, the technical data tend to support the commonly accepted order.

There are so few examples of the other, and evidently later, types of drachms of Orodes I in this lot from the hoard that nothing certain can be concluded about the average fineness or range of fineness of drachms of these types. To those in Table XLIII definitely identified as to later type should be added at least some of the coins of questionable type, as certain of these were clearly of types other than A, B, or C, even though their exact type could not be more precisely established. As may be seen from this table, all the possible examples of drachms of later types are of medium to low fineness, and that the best one is exceeded in fineness by about 65% of the drachms of Type A. The indication is that the drachms of these types were at least as debased as the drachms of Types B or C, and probably more so. The very small proportion of later types of drachms of Orodes I in the lot, and presumably in the hoard itself, is an indication that the hoard was buried, or at least completed, shortly after the issue of drachms of Types A, B, and C had terminated and before any large number of drachms of later types had come into circulation, unless, indeed, the rate of issue of drachms of these later types was abnormally low. However, since the number of coins issued during a period of debasement tends to increase rather than decrease towards the end of the period, an abnormally low rate of issue does not seem at all probable. Therefore, it is likely that this hoard was completed before the end of the reign of Orodes I, perhaps by 40 B.C. at the latest. The very high proportion of drachms of Types A, B, and C, and the small proportion of earlier drachms indicates that the accumulation of the hoard was begun in the period when the drachms of these types were

being issued, in other words not before about 54 B.C. Hence the longest possible period of time during which this hoard was accumulated would seem to be the 15 years from 54 B.C. to 40 B.C., inclusive. However, it is rather probable that the period was actually shorter.

The marked debasement of his coinage may explain why so many different types of drachms of Orodes I were issued even after he had gained sole control of Parthia. If the drachms of one particular type had met with full acceptance, need for a variety of types would not have arisen, especially since the innate conservatism of eastern peoples as regards types of coins that are preferred would have strongly favored the continuation of drachms of one fixed type. However, if the drachms of a particular type issued early in his reign were progressively debased during the period of their issue, and if the more debased drachms were detected, as might well happen after brief circulation, then public acceptance of the coins of this particular type would lessen. The obvious remedy would be to change the type noticeably but not radically and begin a new issue on a higher standard than these more debased coins, and perhaps with provision for redemption of the latter. If the drachms of this new type were in turn progressively debased, then the same remedy could be applied again, and be repeated through a series of types. The technical data, especially the marked overlapping of the ranges of fineness of Types A, B, and C, supports this theory.

X. RECOMMENDED GENERAL PROCEDURE
FOR THE ESTIMATION OF THE FINENESS
OF ANCIENT SILVER COINS
BY MEANS OF SPECIFIC GRAVITY MEASUREMENTS

This whole study of the validity and utility of specific gravity measurements for the estimation of the fineness of ancient silver coins, especially the method followed in the investigation of the fineness of the group of coins from the hoard, indicates the general procedure that should give the best results for the estimation of the average fineness and range of fineness of a large number of specimens of coins of a given type or series, or of a large number of coins from a hoard. In the first place, the reliability of the results that are obtained depends on the condition, fineness, and weight of the coins that are studied. No worth while results can be expected from coins that are badly corroded either externally or internally. All coins to be investigated by this procedure should be cleaned by electrolysis, except possibly coins of very high fineness, which apparently may be cleaned adequately by chemical or even mechanical methods. Occasionally lacquered coins may be encountered from which the lacquer must be removed by an appropriate solvent. Coins of very low fineness, i.e. billon coins of poor quality, cannot be expected to yield reliable results. Nor can reliable results be obtained on very small coins, such as the obol and its fractions, because of the technical difficulty of determining their specific gravity with sufficient accuracy.

The determinations of specific gravity should be made with apparatus, materials, and a manipulative technique that make possible such determinations accurately through the second decimal place. The necessary apparatus and materials are here listed.

Apparatus

1. An analytical balance that is sensitive to at least 0.2 milligram.
2. A good set of analytical weights, preferably a set that has been recently calibrated.

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3. A bridge of metal or wood that straddles the left pan of the balance and supports the vessel of water in which the coin is weighed.
4. A glass beaker or jar with a capacity of about 250 ml.
5. An all-glass chemical wash bottle designed to hold acetone or other suitable solvent. A small pipette may be substituted for this.
6. A chemical thermometer.

Materials

1. Copper or silver wire of very small diameter. The smaller the diameter of the wire the better it will be for the purpose, as long as it is strong enough to support the weight of a coin. Wire coarser than No. 30 B. and S. gauge should not be used. When a large number of determinations are to be made on coins of about the same size a very convenient device is a narrow cradle or basket fashioned from heavier and more rigid wire in which a coin will be held vertically. This is attached to the very fine suspension wire and avoids the time and trouble involved in attaching each coin separately to a fine suspension wire. Such a wire cradle is best made with smooth soldered joints to avoid the possibility of inclusion of minute air bubbles in twisted wire connections when this device is immersed in water. It should be of such a size that no part of it reaches the surface of the water when it is immersed.
2. Distilled water. This should be freshly boiled and cooled to 25° C. just before being used for a series of determinations on any given day. The purpose of boiling is to expel dissolved air which may be released while a coin is being weighed in the water and become attached to the coin or suspension wire as bubbles that are troublesome to remove.
3. Acetone. Ethyl ether may also be used.

The first step in finding the specific gravity of a coin is the determination of its weight in air accurately through the third decimal place in grams. This involves weighing to the fourth decimal place with sufficient care to establish the figure in the third place with entire certainty. The coin is then attached to one end of a fine suspension wire or is placed in a wire weighing cradle attached to such a wire. For this purpose the wire may be attached adequately by wrapping one turn tightly around the coin in one direction, crossing the wire with a single twist at the center of the coin, wrapping another single turn at right angles to the first, and attaching the short end of the wire to the long end with a single twist at the edge of the coin. Any excess of the short end is then broken or cut off. The application of more than single turns of wire is neither necessary nor desirable.

A loop for attachment to the suspension hook above the left pan of the balance is then made in the long end of the wire at such a point that the coin will be suspended in the middle of the glass vessel for the water when the balance is at rest. Any excess of wire is broken or cut off. The coin and suspension arrangement are rinsed with acetone or ether by directing a stream of the solvent from a wash bottle or pipette at a point just below the suspension loop and allowing it to run down over the entire coin. Not more than 10 ml. is needed. The purpose of rinsing with such a solvent is to remove any grease or oil that originally may be on the coin or wire or that may be transferred to them while handling. Such grease or oil may prevent the wetting of the metal by the water and cause the formation of adherent air bubbles or films. As soon as the solvent has completely evaporated, the glass vessel is placed on the bridge, the coin is suspended from the hook, and distilled water, previously boiled and cooled to 25° C., is poured into the jar until the level of the liquid is so high that no part of the coin or the supporting wire immediately around it will reach the surface of the liquid when the balance beam swings. Any air bubbles present on the coin or submerged wire are removed by touching them with the end of a piece of wire. The weight of the coin and its suspension arrangement in water is then determined by taking the average of at least three weighings. In making these weighings the swing of the beam of the balance should be small, and the point of equilibrium should be approached from both directions, i.e., in one weighing, weights are selected such that their total weight is slightly more than is necessary to balance the coin and its suspension arrangement, and then weight is cautiously removed until equilibrium is reached, whereas in the next weighing the total weight is first slightly less, and weight is added until equilibrium is reached. Ordinarily, the final adjustment is made with the balance rider, or on some balances with a weight chain. The average of these weighings should be expressed through the third decimal place in grams. The coin is then removed and the weight of the empty suspension arrangement in water is determined in the same way. Care should be taken that the level of the water is at the same point on the fine suspension wire as when the coin was present. The original level of the water may be conveniently marked on the outside of the glass vessel by means of a

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wax pencil before the coin is removed. With a small coin no significant drop in water level occurs when it is removed, but with a large coin it is necessary to add a small volume of water to compensate for the drop in level.

To calculate the specific gravity, the average weight of the suspension arrangement in water is first subtracted from the average weight of the coin plus its suspension arrangement in water. This gives the weight of the coin alone in water. Then this weight is subtracted from the weight of the coin in air, and the result is divided into the weight of the coin in air. The result of this division is the specific gravity at 25° C. as compared to water at this temperature, and it should be expressed through the second decimal place.

The theoretical fineness, expressed to the nearest 5 units, corresponding to any specific gravity in the range likely to be encountered,

TABLE LII

THEORETICAL RELATIONSHIP BETWEEN THE SPECIFIC GRAVITY AND THE FINENESS OF SILVER COINS

<i>Specific Gravity</i>	<i>Fineness</i>	<i>Specific Gravity</i>	<i>Fineness</i>
10.50	1000	10.29	885
10.49	995	10.28	880
10.48	990	10.27	875
10.47	985	10.26	870
10.46	980	10.25	865
10.45	975	10.24	860
10.44	970	10.23	855
10.43	965	10.22	850
10.42	960	10.21	840
10.41	950	10.20	835
10.40	945	10.19	830
10.39	940	10.18	825
10.38	935	10.17	820
10.37	930	10.16	815
10.36	925	10.15	810
10.35	920	10.14	805
10.34	915	10.13	795
10.33	910	10.12	790
10.32	905	10.11	785
10.31	895	10.10	780
10.30	890	10.09	775

<i>Specific Gravity</i>	<i>Fineness</i>	<i>Specific Gravity</i>	<i>Fineness</i>
10.08	770	9.66	515
10.07	760	9.65	510
10.06	755	9.64	505
10.05	750	9.63	495
10.04	745	9.62	490
10.03	740	9.61	485
10.02	735	9.60	480
10.01	730	9.59	470
10.00	720	9.58	465
9.99	715	9.57	460
9.98	710	9.56	455
9.97	705	9.55	445
9.96	700	9.54	440
9.95	695	9.53	435
9.94	685	9.52	425
9.93	680	9.51	420
9.92	675	9.50	415
9.91	670	9.49	405
9.90	665	9.48	400
9.89	655	9.47	395
9.88	650	9.46	390
9.87	645	9.45	380
9.86	640	9.44	375
9.85	635	9.43	370
9.84	625	9.42	360
9.83	620	9.41	355
9.82	615	9.40	350
9.81	610	9.39	340
9.80	605	9.38	335
9.79	595	9.37	330
9.78	590	9.36	325
9.77	585	9.35	315
9.76	580	9.34	310
9.75	575	9.33	300
9.74	565	9.32	295
9.73	560	9.31	290
9.72	555	9.30	280
9.71	550	9.29	275
9.70	540	9.28	270
9.69	535	9.27	260
9.68	530	9.26	255
9.67	525	9.25	250

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is shown in Table LII. This table was constructed on the basis of the theoretical formula by taking 10.50 as the specific gravity of pure silver and 8.90 that of pure copper, both at 25° C. as compared to water at this temperature. If the observed specific gravities are very high, i.e., above 10.35, the fineness thus found may safely be assumed to be about the same as the actual fineness. If they are below this figure, certain coins of the group should be selected for determinations of their actual fineness by fire assay or chemical analysis. When the observed specific gravities are all about the same, only two or three typical coins need be sacrificed for this purpose, but when they are widely spread, more coins should be selected, at least one for each 0.10 unit range in specific gravity. The differences between the actual figures and the theoretical figures for the fineness of these representative coins then gives a correction that should be applied to the figures for the theoretical fineness of all the coins in the group in order to obtain their estimated actual fineness. This correction may be constant throughout a given group or it may be different at different ranges of specific gravity.

In conclusion it may be remarked that our present knowledge of the fineness of many types and series of ancient silver coins is fragmentary and unreliable, and that the general procedure here described provides a practical means of improving our knowledge in this respect without destroying the large number of irreplaceable ancient coins which otherwise would be necessary.

PLATES

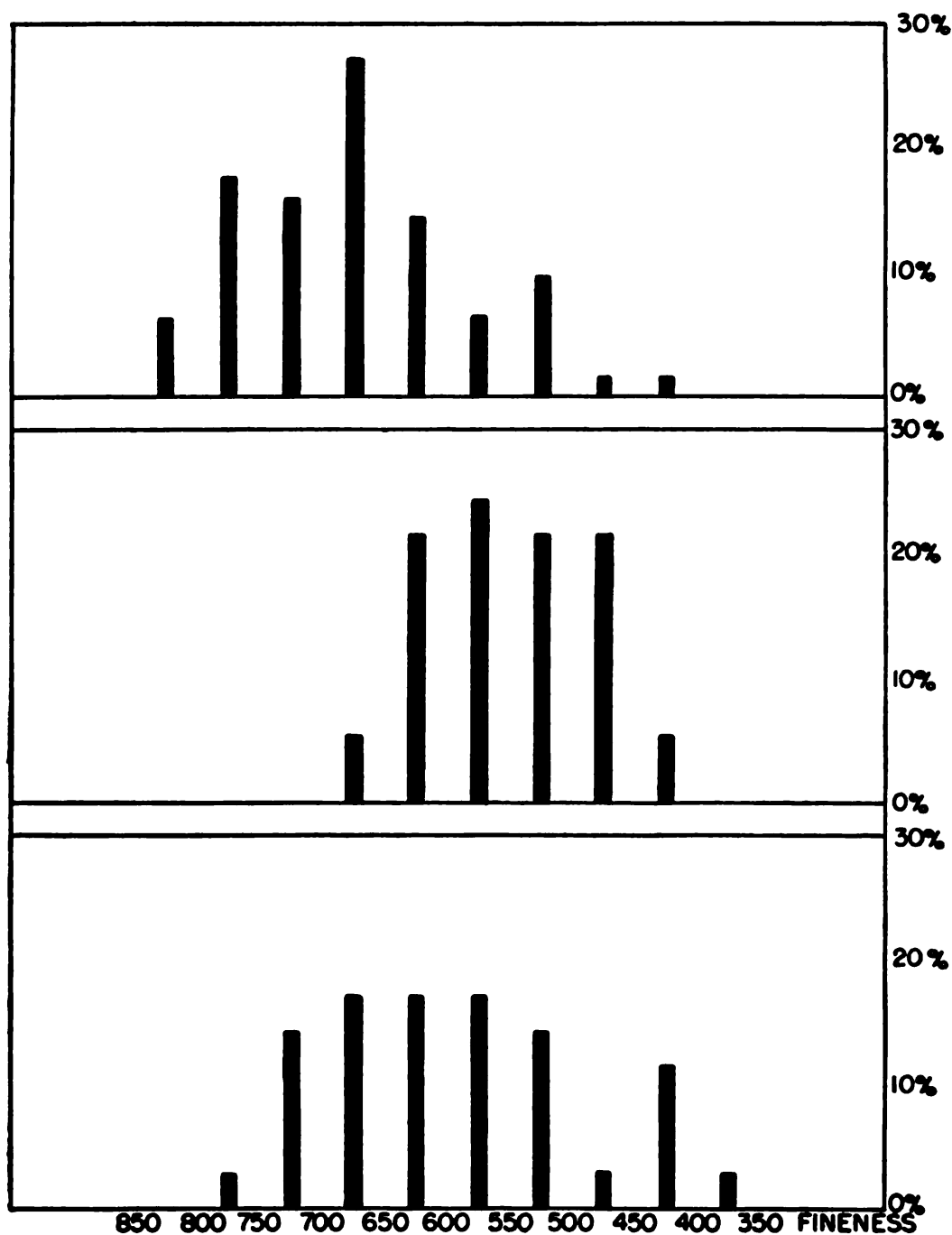


PLATE I

PERCENTAGE DISTRIBUTION ACCORDING TO FINENESS
OF DRACHMS OF TYPES A, B, C AND FROM HOARD

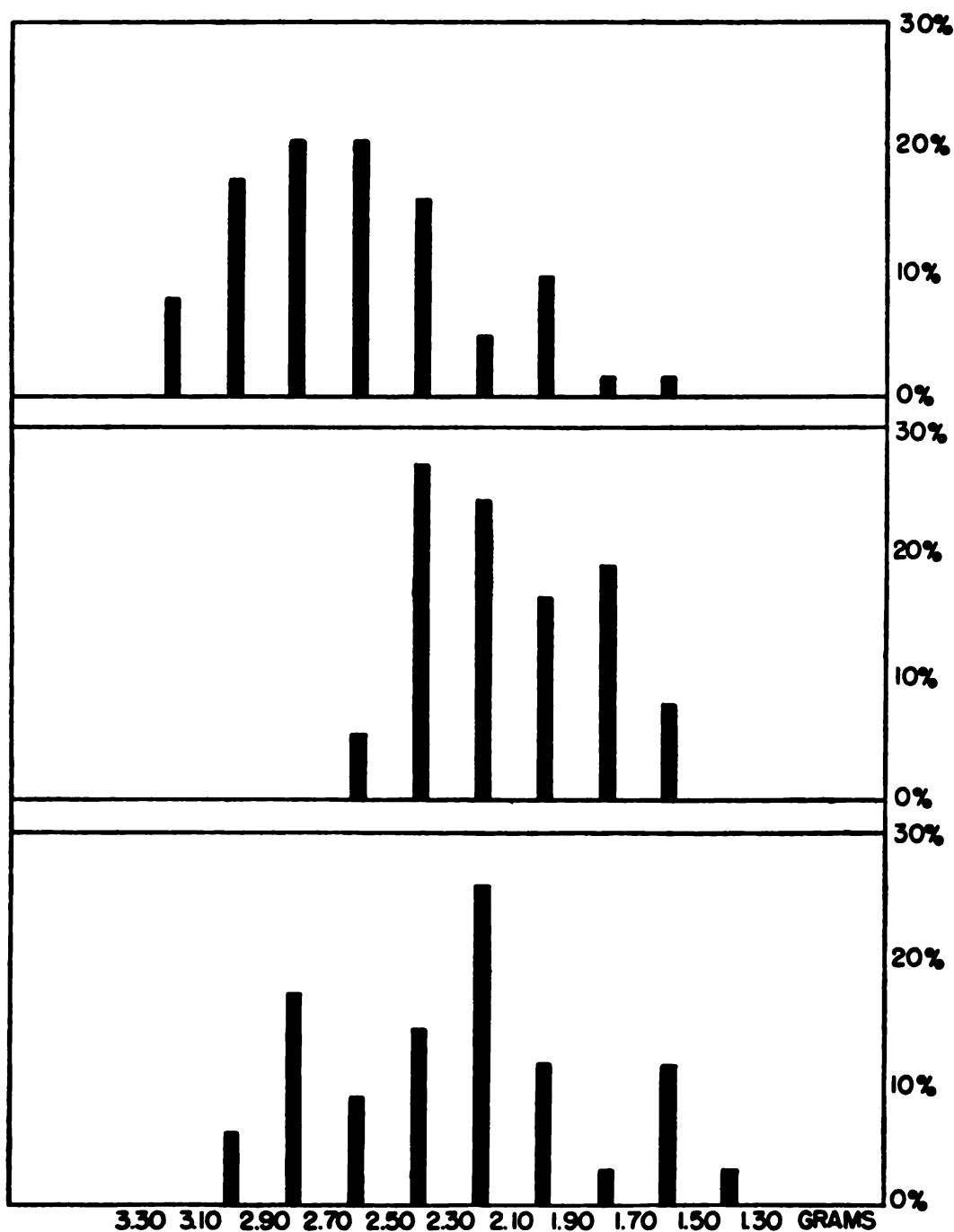


PLATE II
PERCENTAGE DISTRIBUTION ACCORDING TO SILVER
CONTENT OF DRACHMS OF TYPES A, B, AND C FROM HOARD

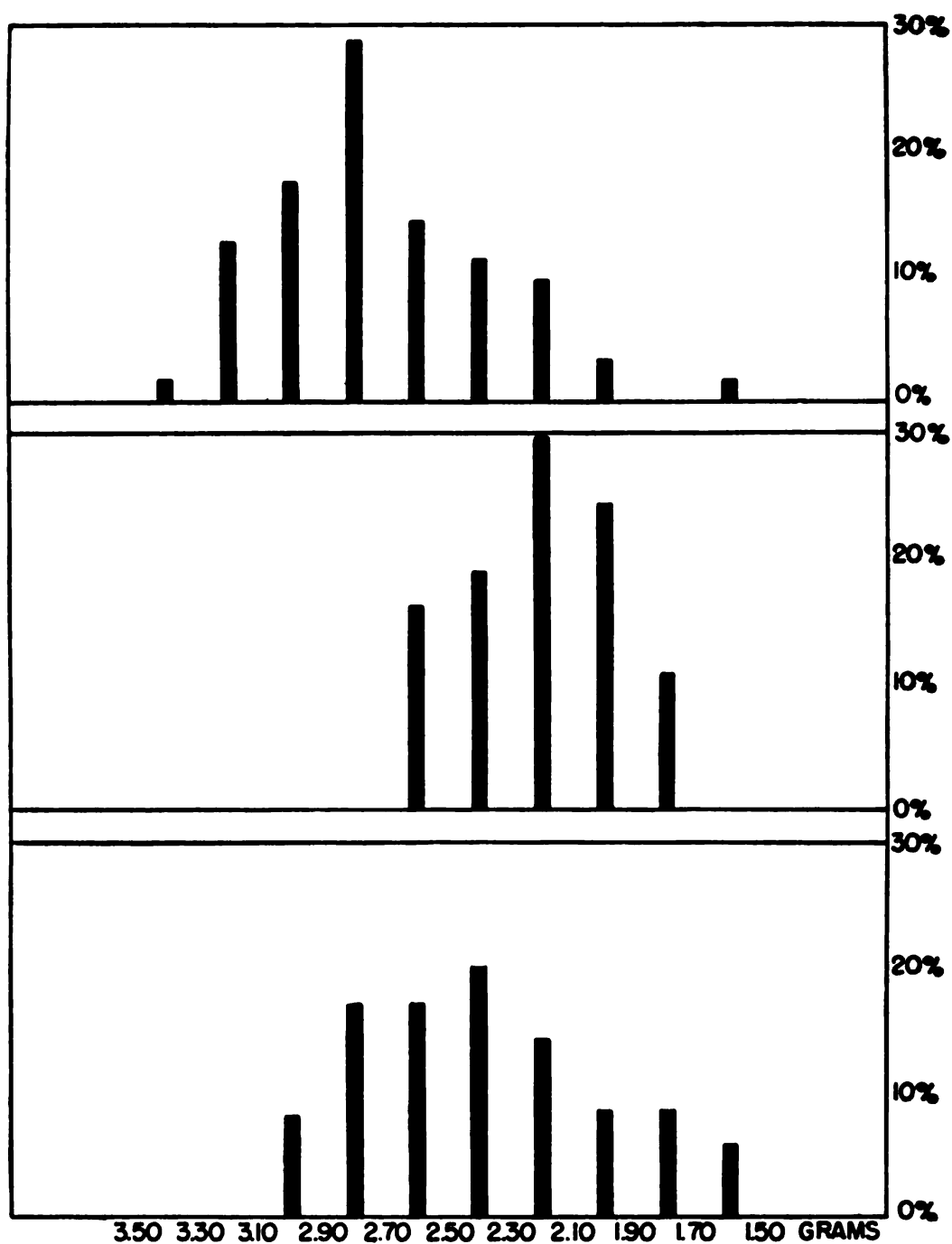


PLATE III

PERCENTAGE DISTRIBUTION ACCORDING TO CORRECTED SILVER
CONTENT OF DRACHMS OF TYPES A, B, AND C FROM HOARD

NUMISMATIC NOTES AND MONOGRAPHS

No. 130

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no. 130

STUDIES IN THE
NUMISMATIC HISTORY
OF GEORGIA
IN TRANSCAUCASIA

By DAVID M. LANG



THE AMERICAN NUMISMATIC SOCIETY

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Studies in the Numismatic History of Georgia in Transcaucasia

Based on the Collection of
The American Numismatic Society

BY DAVID M. LANG



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PREFACE

This work does not pretend to be a complete repertory of Georgian coinage. Such a publication would require many years of research with access to collections in the Soviet Union not at present available to Western scholars. But it should not be assumed that no fresh material is available to students in the West. The Museum of The American Numismatic Society, particularly since its acquisition of the collection of the late General Vsevolod Starosselsky, commander of the Persian Cossack Brigade, now possesses an exceptional range of coins, representing almost every period of Georgian numismatic history. No description of this section of the Museum's collection has ever been published. It is with a view to acquainting numismatists with the interest presented by this collection in particular, and by the monetary series of Georgia in general, that this monograph has been undertaken.

The work could not have been even contemplated without the guidance of Dr. George C. Miles, Chief Curator of the ANS Museum. In addition to giving unstinted advice on many problems of a technical order, Dr. Miles has undertaken virtually the entire work of decipherment and verification of the Arabic and Persian legends which occur on the majority of Georgian monetary issues. While acknowledging his great indebtedness to Dr. Miles' collaboration, the author accepts full responsibility for the defects of the present work.

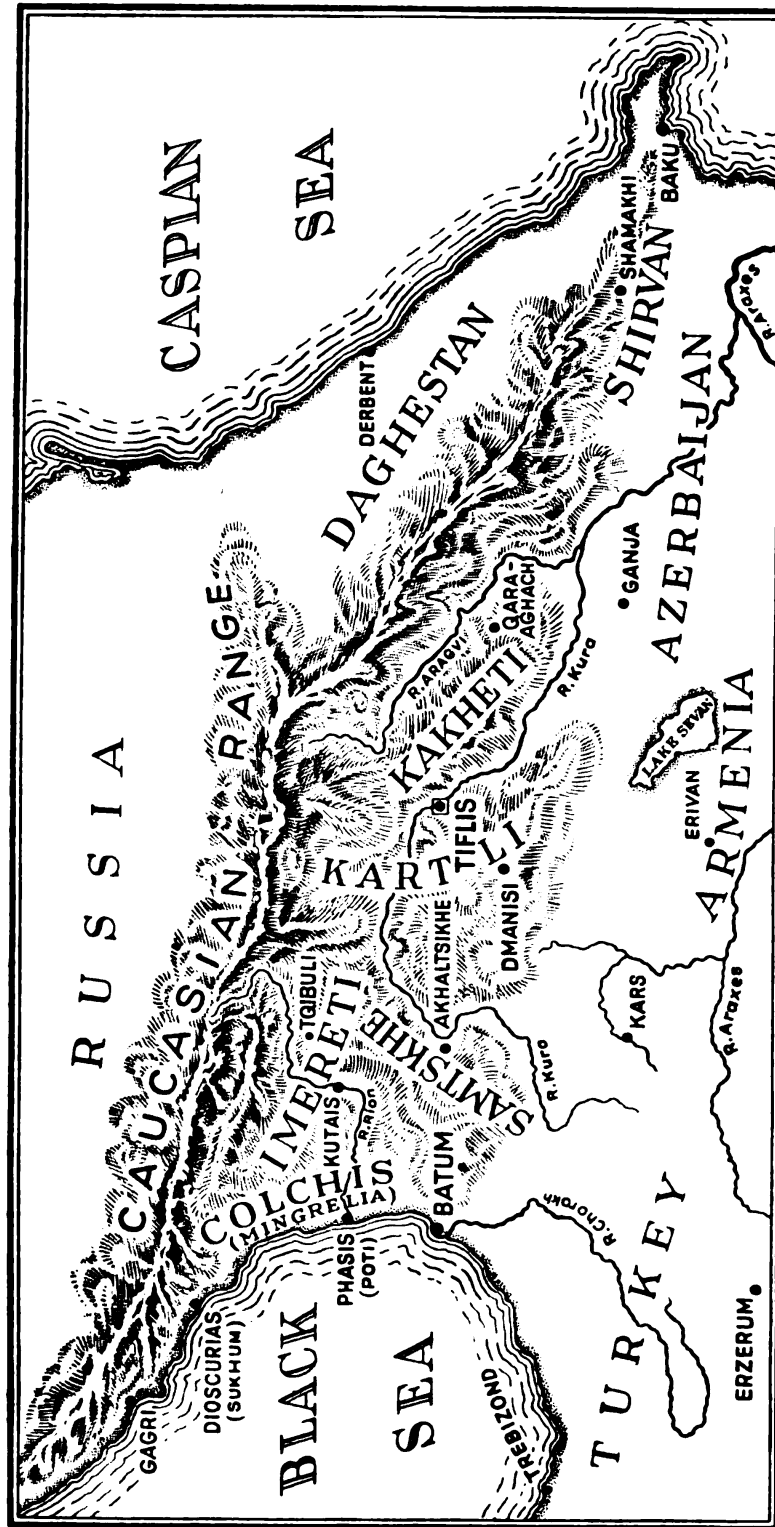
The most generous facilities have been received from every department of the Museum. This kindness is the more appreciated since the research was carried out at a time when major structural alterations to the building imposed additional strain on the staff of the Museum.

Grateful acknowledgement is made to the Russian Institute of Columbia University, which granted to the writer a Senior Fellowship in Georgian Studies for the year 1952-53, and to the colleagues and friends in New York and Washington who have given information and access to coins in their possession; also to Dr. John Walker, Keeper of Coins and Medals in the British Museum, who kindly checked the work in proof.

The GEORGIAN ALPHABET

No.	KHUTSURI (Ecclesiastical Capitals)	MKHEDRULI (Modern Alphabet)	Transliteration	Numerical Value
1	Ⴀ	ა	<i>a</i>	1
2	Ⴁ	ბ	<i>b</i>	2
3	Ⴂ	გ	<i>g</i>	3
4	Ⴃ	დ	<i>d</i>	4
5	Ⴄ	ე	<i>e</i>	5
6	Ⴅ	ვ	<i>v</i>	6
7	Ⴆ	ზ	<i>z</i>	7
8	Ⴇ	ყ	<i>ey</i>	8
9	Ⴈ	ო	<i>t'</i>	9
10	Ⴉ	ი	<i>i</i>	10
11	Ⴊ	კ	<i>k</i>	20
12	Ⴋ	ლ	<i>l</i>	30
13	Ⴌ	მ	<i>m</i>	40
14	Ⴍ	ნ	<i>n</i>	50
15	Ⴎ	რ	<i>y</i>	60
16	Ⴏ	ა	<i>o</i>	70
17	Ⴐ	ბ	<i>p</i>	80
18	Ⴑ	გ	<i>ž [zh]</i>	90
19	Ⴒ	დ	<i>r</i>	100
20	Ⴓ	ე	<i>s</i>	200
21	Ⴔ	ვ	<i>t</i>	300
22	Ⴕ	ზ	<i>u</i>	} 400
23	Ⴖ	ყ	<i>w [vi]</i>	
24	Ⴗ	ო	<i>p'</i>	
25	Ⴘ	ი	<i>k'</i>	500
26	Ⴙ	კ	<i>g'</i> [gh]	600
27	Ⴚ	ლ	<i>q</i>	700
				800

No.	KHUTSURI (Ecclesiastical Capitals)	MKHEDRULI (Modern Alphabet)	Transliteration	Numerical Value
28	Ⴀ	შ	<i>sh</i> [sh]	900
29	Ⴁ	ჩ	<i>ch</i> [ch]	1000
30	Ⴂ	ც	<i>ts</i> [ts]	2000
31	Ⴃ	ძ	<i>dz</i>	3000
32	Ⴄ	წ	<i>ds</i> [ds]	4000
33	Ⴅ	ჭ	<i>tch</i> [tch]	5000
34	Ⴆ	ხ	<i>kh</i> [kh]	6000
35	Ⴇ	ბ	<i>kh</i> [kh]	7000
36	Ⴈ	გ	<i>j</i>	8000
37	Ⴉ	დ	<i>h</i>	9000
38	Ⴊ	ე	<i>ho</i> [oy]	10000



THE CAUCASUS

I. INTRODUCTORY

The numismatic history of the Caucasian kingdom of Georgia and its various principalities extends over more than two thousand years and presents a series of the most diverse types, reflecting the political and cultural influences to which the land was from time to time subjected. Colchis, or western Georgia, was renowned from mythical times as a source of precious metals, a fact illustrated by the legend of the Golden Fleece.

Some four centuries before our era, Greek colonies on Georgia's Black Sea coast were issuing their own currency, which circulated freely among the Georgian clans of the hinterland. The influence of Greek and Roman domination can be seen in a number of curious local imitations of the staters of Alexander the Great and Lysimachus, and later of the denarii of the Emperor Augustus.

During the sixth and seventh centuries after Christ, when Transcaucasia was a battleground between the Sasanian and Byzantine empires, eastern Georgia, the Iberia of the Ancients, began to evolve its own coinage. Starting as an adaptation of a familiar Sasanian model, this first Iberian series soon achieved a significant evolution towards a national, Christian iconography. Before long, however, the Arab conquest imposed a uniformity of style reflecting Georgia's subjection to the new might of Islam. On the decay of the Caliphate, the Emirs of Tiflis asserted their new-found autonomy in coinage of a distinctly particularist type.

By the tenth century, the Georgians were rising to full statehood. Close cultural ties with Byzantium resulted in the adoption of styles which, far from being slavish imitations, show strong and individual developments in Christian imagery. Under King David the Builder and Queen T'amar, during the twelfth and early thirteenth centuries, Georgia profited by the weakening of Seljuk power to establish a kingdom extending from the North Caucasus into Anatolia on the one hand, and from the Black Sea into Azerbaijan on the other. In-

creasing intimacy with neighbouring Muslim principalities led to the adoption of a mixed style of coinage, embodying both National-Christian and Islamic elements. This did not, during Georgia's Golden Age, imply political dependence on the Muslim powers. Indeed the Georgian dynasts took pride in their Arabic legends in vaunting their role as Defender of the Christian Faith. Sometimes the Caliph's name was included as a gesture of conciliation to Georgia's many Muslim subjects, as well as to the inhabitants of neighbouring states, among whom economic considerations made it desirable that Georgia's coinage should circulate as widely as possible.

The Mongol domination, one of the most demoralizing periods in Georgia's history, is paradoxically enough one of the most fascinating in the history of her coinage. Two main series may be distinguished: the Hulaguid-Christian dirhems, bearing a cross and often the monogram of the Georgian vassal monarch; and the standard Il-Khanid issues, struck in the towns of Tiflis, Akhaltsikhe and Qarā-Aghāch just as in scores of other mint-towns in the Mongol empire of Persia and the Near East.

The onslaughts of Tamerlane, which occurred just when Georgia was recovering from the Mongol occupation, had a disastrous effect on the coinage. The few examples of Georgian national currency of the fourteenth and fifteenth centuries which have come to light bear witness to a sadly debased standard of quality and workmanship.

The Ottoman and Safavid empires early strove to subjugate Transcaucasia. The conquest of Georgia by Shah 'Abbās early in the seventeenth century and the suzerainty subsequently exercised by the court of Isfahan are commemorated by a long series of standard Safavid issues minted at Tiflis. In 1723 the Turks invaded and held the land for a few years, also leaving numismatic traces of their occupancy. The conqueror Nādir expelled the Turks in his turn, an event likewise recorded in the coinage.

Erekle II (1744-98) brought eastern Georgia half a century of somewhat precarious independence, during which time she had to manoeuvre between Persia and Russia. We alternately find on Erekle's coinage the Russian eagle and elements of wholly Persian affinity, though an individual ensemble is often achieved.

The death in 1800 of Giorgi XII, last king of K'art'lo-Kakhet'i,

resulted in the absorption of the country by Russia. For the first three decades of the century, a mint operated in Tiflis under Imperial authority to produce a distinct regional currency for the new province, the inscriptions being in Georgian characters. After 1834, Georgia employed standard Russian currency.

The collapse of the Empire in 1917 was followed by the emergence of small national states from amidst its component parts. One of these was the Georgian Republic, which maintained its independence under the Presidency of the late Noah Jordania until Soviet armed invasion in 1921 brought the country under Bolshevik rule. This was a period of crisis and inflation, as is shown by the note issue of the period. At present, the standard currency of the Soviet Union circulates in Georgia exclusively. Owing to its bulk and heterogeneous nature, however, the description of Georgia's 20th century currency has been reserved for a separate study.

* * *

The study of the coinage of Georgia has long attracted the attention of numismatists. The illustrious Fraehn did much to clarify the tangled web of the Il-Khanid period in Georgia. In 1844, a Georgian nobleman in the Russian service, Prince Michael Barataev (Barat'ashvili) (1784–1856), published the first attempt at a systematic classification of the Georgian coins then known. Barataev's work met with penetrating, if somewhat harsh criticism by the Academician and historian of Georgia, M.-F. Brosset (1802–1880). For his part, Brosset maintained a correspondence on the subject with the eminent numismatist, General J. de Bartholomaei (1812–1870). This correspondence, together with Bartholomaei's letters to Soret on Oriental coins, are among our most valuable guides to Georgian medieval coinage. Meanwhile, the French savant Victor Langlois (1829–1869) was preparing his two historical and descriptive surveys of the coins of Georgia, which appeared in 1852 and 1860. In spite of some defects of detail, the second of these remains a valuable work of reference, and has yet to be superseded.

After this deployment of scholarly resource, the subject slumbered for half a century, until there appeared in 1910 the first section of E. A. Pakhomov's treatise on the coinage of Georgia, extending to

1*

the reign of Queen Rusudan. The second half, which would have comprised the Mongol and subsequent periods, was completed and printed, but prevented by the vicissitudes of war and revolution from being published. This is greatly to be regretted in view of the admirable thoroughness of the first volume. To this day, Pakhomov continues to do most valuable work by classifying and publishing particulars of hoards dug up in Transcaucasia.

In the West, Professor Joseph Karst of Strassburg published in 1938 a concise but serviceable summary of Georgian numismatic history, together with a study of Georgian metrology.

Finally, we must mention the work of the Coin Room of the Georgian State Museum at Tiflis. In the bulletin of that institution have been appearing over the last decade a series of excellent articles by David Kapanadze and T'amar Lomouri, describing new finds and suggesting fresh attributions of known varieties. These articles being written in Georgian, it is to be feared that they will not achieve the notice they deserve in the numismatic world generally. They have been of great service in preparing the following pages.

* * *

A Note on Georgian Chronology

Until the late eighteenth century, none of the coins of Georgia are dated according to the Christian era. Georgian national chronology as employed during the medieval period is based on a Paschal Cycle of 532 years, known as the K'oronikon. The first cycle during which this method of computation was used began in the year 781 A.D. (K'oronikons 1 = 781 A.D.).

This was theoretically the thirteenth cycle. In principle, the cyclic series goes back to the Creation, which the Georgians set at 5604 B.C. The scholiasts who evolved this system of chronology, probably early in the ninth century, were able to compute that in the year 780 A.D., exactly twelve cycles had elapsed (5604 plus 780 equals 6384; 6384 divided by 532 equals 12). Why the year 780 was chosen as a point of departure remains obscure; it may have had some historical connection with the establishment of Bagratid rule in Georgia.

The year of the K'oronikon is normally inscribed on coins and charters in Georgian ecclesiastical majuscule letters ("asomt'avruli"), which can readily be equated with their numerical values. To take an example, the silver dirhem of Queen Rusudan bears the date ԳԽ equivalent to 450 of the K'oronikon, i.e., 1230 A.D. (780 plus 450 equals 1230). The possibility has to be borne in mind that the date might belong to the next K'oronikon, beginning in 1312 A.D. This would bring one to the year 1762 A.D., which can be ruled out, as in other cases, by historical and stylistic evidence.

In addition, the Hijra era is found on most series from the Arab conquest until the Russian occupation. This may occur either instead of or in conjunction with the year of the Georgian K'oronikon.

II. THE CLASSICAL PERIOD

The monetary series of Georgia begins with the coins of Colchis, that area on the eastern shores of the Black Sea which comprises the present-day Mingrelia, Imeret'i and adjoining territories. As is well known, Greek colonists from Miletus maintained settlements and trading stations there from the seventh century B.C. onwards. The most important of these were Dioscurias, near the present-day Sukhum in Abkhazia, and Phasis, at the mouth of the river of that name, the modern Rion.

Six types of Colchian coin, conveniently termed "Kolkhidki" in the Russian literature, are listed and illustrated in recent articles by the Soviet numismatists A. N. Zograf and D. G. Kapanadze.¹ Three of them are new to science. The ANS has only the best-known and most widely distributed variety of Kolkhidka. Two of the six specimens in the collection are illustrated.

1. Hemidrachm Colchis circa 400 B.C.

Obv. Female head, right, of archaic or archaistic style. Hair falls in three tresses down the back of the neck. Border of dots.

Rev. Bull's head, right, within linear circle.

AR 12 mm. → 1.99 gr.

PLATE I, 1.

1 A. Similar to preceding, but head on obverse with four tresses of hair.

AR 12 mm. ↑ 2.27 gr.

PLATE I, 2.

¹ A. N. Zograf, "Rasprostranenie nakhodok antichnykh monet na Kavkaze," in *Gosudarstvennyy Ermitazh: Trudy Otdela Numizmatiki*, tom I, Leningrad, 1945, pp. 29-85, with plates and map; D. G. Kapanadze, "Zametki po numizmatike drevney Kolkhidy," in *Vestnik Drevney Istorii*, No. 3, 1950, pp. 193-96.

The other four specimens in the ANS collection are as follows: —

- a) 11 mm. → 1.63 gr.
- b) 11 mm. ← 1.84 gr.
- c) 11 mm. ↓ 2.19 gr.
- d) 11 mm. ← 2.29 gr.

Head, *Historia Numorum*, p. 495; Babelon, *Traité*, II, 2, pp. 1533–36; Grose, *McClean Collection*, III, p. 2; Wroth, *B. M. Catalogue of Greek Coins (Pontus, etc.)*, p. 4; Pakhomov, *Monety Gruzii*, Pl. I, Nos. 1–5. Pakhomov also illustrates a variety with the bull's head to left.

Specimens have also been recorded with the Greek letters MO, O, A or Φ beneath the head on the obverse.

Head's view that this type originated about 400 B.C. is followed by the majority of authorities, though Grose inclines to the period 500–470. The Soviet archaeologist V. M. Skudnova recently published a specimen discovered in excavations in the Tauric Chersonese among some pottery of a period not later than the second half of the sixth century.¹ But this does not prove that the coin itself is anything like as early as this.

These little hemidrachms are dug up in scores in Mingrelia, Guria and Imeret'i, and have even been used as shot-gun pellets by local hunters.² They probably continued to be minted over a considerable period of years, perhaps right up to the second century B.C.

Of much greater rarity is a Colchian didrachm, one of the few known specimens of which, formerly in the Jameson Collection, and later in the possession of Dr. Jacob Hirsch of New York, is now in the collection of Dr. E. S. G. Robinson.³ Its present owner has kindly allowed us to examine and describe this highly interesting piece.

2. Didrachm Colchis c. 400 B.C.

Obv. Female head, right, with hair falling in tresses down the back of the neck, within linear circle.

¹ V. M. Skudnova, "Nakhodki kolkhidskikh monet i pifosov v Nimfee," in *Vestnik Drevney Istorii*, No. 2, 1952, pp. 238–42.

² Zograf, "Rasprostranenie nakhodok," p. 35.

³ *Collection R. Jameson*, IV, 1932, p. 62, No. 2543 (Pl. CXXXIV); Hess Sale, Lucerne, April 14, 1954, No. 134.

Rev. Two female heads, facing one another, each in square incuse.

AR (base silver) 21 mm. ↗ 10.40 gr. PLATE I, 3.

Babelon, *Traité*, II, 2, pp. 1535–36, No. 2966; Zograf, "Rasprostranenie nakhodok," Pl. I, No. 3, and p. 36, note 1 (with refs. to earlier literature); Kapanadze, in *Vestnik Drevney Istorii*, No. 3, 1950, No. 3. Not in Head.

Makalat'ia, a prominent specialist on Georgian folk-lore, makes the interesting suggestion that the long-haired female figure on Colchian coins is to be identified with the Georgian wood goddess Dali, whose cult corresponds to that of Artemis in Greek mythology.¹

The Warren Collection now in the Museum of Fine Arts, Boston, includes another Colchian didrachm, of a type entirely different from the preceding. It was formerly in the Greenwell Collection. In view of the uncommon interest presented by this coin, its description is repeated here by kind courtesy of the Curator of the Boston Museum's classical collection.

3. Didrachm Colchis 500 B.C. or later.

Obv. Crouching (hermaphrodite) lion, to right, with head turned back. Long mane, prominent teats.

Rev. Kneeling human figure, with bull's or ox's head, somewhat resembling a minotaur, in oblong incuse. Collar around neck.

AR 21 mm. ← 7.87 gr. PLATE I, 4.

Boston Museum, *Brett Catalogue*, No. 1352; W. Greenwell, in *NumChron*, 1893, p. 88; Head, *Historia Numorum*, p. 495; Regling, *Sammlung Warren*, p. 154, No. 973. See also Yakunchikov, *Drevne-grecheskie monety*, Nos. 48–49; Zograf, "Rasprostranenie nakhodok," Pl. I, Nos. 1–2; Kapanadze, in *Vestnik Drevney Istorii*, No. 3, 1950, No. 6.

The enigmatic figures depicted on this coin may one day throw light on the primitive beliefs of the Georgians and Abkhazians, in whose cults they probably have their origin. A parallel may be drawn between this bull-headed human figure and some of the monsters depicted in G. Contenau's *Glyptique Syro-Hittite*.

¹ S. Makalat'ia, "Kolkhuri didrak'ma," in the Tiflis Museum *Moambe*, VII, 1933, p. 202. (This article also in English translation: "Colchian Didrachmas," in *Georgica*, I, Nos. 2–3, London, 1936, pp. 72–77).

Another, and so far inedited variety of this coin in the British Museum collection (ex-Feuardent) shows the lion crouching to left, and the kneeling figure in a somewhat different posture. We intend shortly to publish this specimen in a separate study.

To round off the numismatic history of Colchis, we add here particulars of the three new types of Colchian silver coins recently published by Soviet scholars. Illustrations of them will be found on the plate facing page 194 of D. G. Kapanadze's article in the journal *Vestnik Drevney Istorii*, No. 3, 1950, which is available in the ANS and other scholarly libraries.

- (a) Tetradrachm (Kapanadze, No. 1)
Obv. Lion's head, left; mouth open, showing fangs and tongue.
Rev. Winged Pegasus, right, in square incuse.
Æ 22-23 mm. 13.80 gr.
[Unique. State Museum of Georgia, Tiflis.]
- (b) Drachm (Kapanadze, No. 4)
Obv. Lion's head, facing; bristling mane.
Rev. Bull's head, right, as in Nos. 1 and 1A of the present monograph, but in square incuse.
Æ 18 mm. 5.52 gr.
[Unique. K'ut'ais Museum, Georgia.]
- (c) Hemidrachm (Kapanadze, No. 2)
Obv. Lion's head, right; mouth open, showing fangs; long mane.
Rev. Lioness's head, right, in square incuse.
Æ 15 mm. 2.21-2.6 gr.
[3 specimens. State Museum of Georgia, Tiflis.]

In addition to these Greek influences from the west, many of the Georgian clans were tributaries of the Persian Achaemenid empire. After its collapse, Iranian overlordship was replaced by that of Alexander of Macedon. Barbarous local imitations of the staters of Alexander and of Lysimachus circulated in Transcaucasia, and are found in Abkhazia, Atchara and Imeret'i in Western Georgia, as well as in K'art'lo-Kakhet'i to the east, the Iberia of the ancients.¹

¹ A. N. Zograf, "Antichnye zolotye monety Kavkaza," in *Izvestiya Gos. Akademii Istorii Material'noy Kul'tury*, fasc. 110, Moscow-Leningrad, 1935,

While Georgian imitations of the staters of Lysimachus reach in their latest stage an extreme degree of picturesque distortion, those of the third to second centuries are quite close to their prototype. Two examples are known on which the name of Lysimachus has been, as it were, cut in half, leaving only the final portion: AKOU (or AKHOU). Kapanadze was at first disposed to regard this as the name of a hitherto unknown King of Colchis, but L. P. Kharko made it clear beyond reasonable doubt that it is but the product of a local die-engraver's negligence or whim.¹

The ANS collection has two imitations of the Alexander stater which, though of uncertain provenance, closely resemble the Georgian type. They belong to a late stage of degradation. Their attribution to Georgia is strengthened by their high-rimmed hammered edges, characteristic of other specimens of undisputed Caucasian provenance. They are similar to a couple received from Colchis via Erzerum by Prokesch-Osten in 1859.²

4. Obv. Head of Athena, right, grotesquely distorted. In field, to left, two pellets; to right, four pellets.

Rev. Degradation of winged Nike. In field, above, one pellet; below, one pellet; to left, five pellets; to right, three pellets.

N 16 mm. ↗ 2.60 gr.

PLATE I, 5.

Kapanadze, in *Vestnik Drevney Istorii*, No. 3, 1949, p. 158, Pl. I, No. 2.

4A. Obv. Head of Athena, right, distorted even further than in preceding example. To left, one pellet; to right, four pellets.

Rev. Degradation of winged Nike. Above, left, two pellets; right, four pellets.

N 18 mm. ↑ 3.21 gr.

PLATE I, 6.

Ibid., No. 3.

pp. 178–92; D. G. Kapanadze, "O drevneyshikh zolotykh monetakh Gruzii," in *Vestnik Drevney Istorii*, No. 3, 1949, pp. 156–69; A. N. Zograf, *Antichnye Monety*, Moscow, 1951, p. 102, Pl. XII, Nos. 14–18.

¹ D. G. Kapanadze, "Novye materialy k izucheniyu staterov tsarya AKI," in *Vestnik Drevney Istorii*, No. 1, 1948, and "O dostovernosti imeni, vybitogo na statere Basilevsa Aki," *ibid.*, No. 1, 1949; L. P. Kharko, "Sushchestvoval li tsar' 'Ακης?," *ibid.*, No. 2, 1948.

² Baron Prokesch-Osten, "Description de quelques médailles grecques," in *Revue Numismatique*, 1860, p. 274, Pl. XII, Nos. 10–11.

The ascription of certain groups of Alexander and Lysimachus imitations to Georgia does not, of course, affect the long-established attribution of other groups to the Danubian Celts and other European tribes. This fact is overlooked by Kapanadze when criticizing Forrer and Paulsen for "ignoring" such coins' possible Georgian provenance.¹

At the time of Mithradates Eupator, Colchis fell under the sway of Pontus. From this period dates an interesting bronze issue of the Greek colony of Dioscurias on the Black Sea coast of Abkhazia, two specimens of which are in the ANS collection.

5. Obv. Caps of the Dioscuri, surmounted by six- or eight-pointed stars.

Rev.

Δ Ι	Ο Σ	
Κ Ο Υ	Ρ Ι Α	Thyrsos
Δ	Ο Σ	

Æ 16 mm. 3.83-5.47 gr.

PLATE I, 7, 8.

Head, *Historia Numorum*, p. 496; E. H. Minns, *Scythians and Greeks*, Cambridge, 1913, p. 632, Pl. IX, No. 28; *B. M. Catalogue of Greek Coins (Pontus etc.)*, Pl. I, Nos. 11-12.

The invasion of Georgia by Pompey in 65 B.C. brought the country firmly into the Roman orbit. Pompey appointed Aristarchus to be dynast of Colchis (c. 63-47 B.C.). A silver coin of Aristarchus in the Leningrad Hermitage shows on the obverse the head of Helios (?), and on the reverse, a seated female figure.² The occupation of Georgia by the Roman legions further resulted in local imitations of denarii of the Emperor Augustus.³

¹ *Vestnik Drevney Istorii*, No. 3, 1949, p. 156.

² Head, *Historia Numorum*, p. 496; O. Retovsky, "Drakhma Aristarkha Kolkhidskogo iz sobraniya Imp. Ermitazha," in *Trudy Moskovskogo Numizmaticheskogo Obshchestva*, III, 1905, pp. 1-5.

³ J. Bartholomaei, *Lettres Numismatiques et Archéologiques relatives à la Transcaucasie*, St. Petersburg, 1859, p. 25; Pakhomov, *Monety Gruzii*, Pl. I, No. 7; Zograf, "Rasprostranenie nakhodok," Pl. II, Nos. 2-6.

III. SASANIAN AND ARAB DOMINATION

The evangelization of Georgia by St. Nino at the time of Constantine the Great profoundly altered the course of the country's political and cultural evolution. Georgia became an outpost of Christendom in the East, in spite of repeated efforts by the Sasanians to bring the country back into the Iranian Mazdeist sphere.

This conflict is exemplified in the coinage of the sixth and seventh century princes of Iberia, Guaram I and Stephen I and II. The various types are all derivations from the drachm of the Sasanian monarch Hormizd IV (A.D. 579-90). They show a steadily increasing tendency towards independence, beginning with the addition to the obverse design of the Georgian prince's monogram, and ending with the substitution of the Christian cross for the sacred flame portrayed upon the fire-altar on the reverse.¹

Two Sasanian-type pieces in the ANS collection which had been taken for Georgian imitations fail on examination to show these characteristic traits. They apparently belong in fact to the Central Asian category.²

This chapter in Georgian numismatic history was brought to an abrupt end by the capture of Tiflis by the Arabs about the year 655 A.D. The Arab hegemony over Eastern Georgia is marked by a series of dirhems of standard type struck at Tiflis in the name of the Caliphs, beginning with an Umayyad dirhem of A. H. 85.

Of the set of examples described and illustrated by Pakhomov,³ the single specimen in the ANS collection is a dirhem of the 'Abbāsid

¹ Bartholomaei, *Lettres Numismatiques*; Pakhomov, *Monety Gruzii*, pp. 15-36, Pls. I-II; Prince C. Toumanoff, "Iberia on the eve of Bagratid rule, Excursus C: Coins of the Princes of Iberia," in *Le Muséon*, LXV, Louvain, 1952.

² One of these two is apparently the identical specimen described in Schulman's catalogue of March 30, 1914, No. 362. Incidentally, there can be little doubt that the coin described as "Georgian"-Sasanian in the Grantley sale catalogue (Schulman, Amsterdam, 1921), No. 1605, is really Central Asian. The second of these two doubtful items in the ANS collection resembles the variety described in the White King catalogue (Schulman, Amsterdam, 1904), No. 855.

³ *Monety Gruzii*, pp. 36-48, Pl. II, Nos. 23-29.

Caliph al-Muktafi (A.H. 289-95), struck in the year 294 of the Islamic era.

6. Dirhem Tiflis A.H. 294/906-7 A.D.

Obv.	لا اله الا	There is no god but
	الله وحده	Allāh alone.
	لا شريك له	He has no associate.

Inner margin: بسم الله ضرب هذا الدرهم بتفليس سنة اربع وتسعين ومائتين

In the name of Allāh, this dirhem was struck at Tiflis in the year 294.

Outer margin: Qur'ān, XXX, 3-4.

Rev.	الله	To Allāh
	محمد	Muhammad
	رسول	Is the Messenger
	الله	Of Allāh
	المكتفى بالله	al-Muktafi bi'llāh.

Margin: Qur'ān, IX, 33.

℞ 26 mm. 2.93 gr.

PLATE I, 9.

Tiesenhausen, *Monety Vostochnogo Khalifata*, No. 2197; Pakhomov, *Monety Gruzii*, pp. 42-43, Pl. II, No. 24.

In the year 912, mention is made of a lieutenant of the Caliph at Tiflis by the name of Ja'far b. 'Alī. Following the disintegration of the 'Abbāsid caliphate towards the middle of the tenth century, control over the city and district of Tiflis remained vested for nearly two centuries in this Ja'far's line.

These Ja'farid emirs now began to strike a series of silver dirhems in their own name. So far, there have been recorded coins of Manṣūr

b. Ja'far struck in 342/953-4 and 343/954-5, during the caliphate of al-Muṭī' li'llāh; also of this emir's son Ja'far b. Maṣṣūr, dated 364/974-5, 366/976-7 and 370/980-1, in the caliphate of al-Ṭā'ī' li'llāh.¹

This list has recently been amplified by the discovery near Tiflis of a dirhem minted in 386/996-7 by the emir of Tiflis, 'Alī b. Ja'far, son and successor of Ja'far b. Maṣṣūr. This coin, first published by the Georgian numismatist, D. Kapanadze,² does not differ essentially from those of this ruler's father and grandfather. It is of the usual 'Abbāsīd type, with the conventional three-line declaration of faith on the obverse, together with the mint-date formula and an outer margin containing Qur'ān XXX, 3-4. On the reverse as follows: —

محمد	Muḥammad
رسول الله	Is the Messenger of Allāh
الطابع لله	al-Ṭā'ī' li'llāh
الامير المظفر	al-Amīr al-Muẓaffar
علي بن جعفر	'Alī b. Ja'far.

And the usual marginal legend.

Kapanadze notes with some surprise that this dirhem, dated A.H. 386, is struck in the name of the Caliph al-Ṭā'ī', who had been deposed five years earlier. This apparent inconsistency is due to the fact that the Baghdad coup d'état of A.H. 381 aroused widespread opposition and a determined legitimist movement in favour of the deposed Caliph. For several years a number of outlying regions of Islam, notably in Persia, refused to recognize the new Caliph, al-Qādir.³ It is interesting to note that the Emir of Tiflis was among those who stood out against the new order.

¹ Pakhomov, *Monety Gruzii*, pp. 48-52.

² D. Kapanadze, "X saukunis T'biluri drama Ali ben Jap'arisa," in *Sak'art'velos sakhelmdsip'o muzeumis moambe*, XIIB, 1944, 183-90.

³ George C. Miles, *Numismatic History of Rayy*, New York, 1938, pp. 173-76. The deposed al-Ṭā'ī' did not die until A.H. 393.

A sequel to this story is supplied by a hitherto unchronicled item in the ANS collection. The description of this piece, which formerly belonged to General Starosselsky, is as follows: —

7. Dirhem Tiflis A.H. **4.

Obv. لا اله الا There is no god but

الله وحده Allāh alone.

.....

لا شريك له He has no associate.

القادر بالله al-Qādir bi'llāh.

Inner margin:..... هذا الدرهم (sic) بتفليس سنة اربع (؟)
 this dirhem at Tiflis, year **4 [A.H. 394, 404 or 414]

Outer margin: Qur'ān XXX, 3-4.

Rev. الله To Allāh

محمد Muḥammad

رسول الله الام [ير] Is the Messenger of Allāh; the Am[īr]

.....

المظفر ابو..... Victorious, Abū

على بن جم [فر] 'Alī b. Ja'[far].

Margin: Traces of Qur'ān IX, 33.

℞ 23 mm. 4.12 gr.

PLATE I, 10.

This is a coin of thick, somewhat crude fabric. Its individual style of design and layout reflects a distinct trend towards political independence. Note the *kunyah*, partly effaced on this specimen, not

found on the same Emir's standard-type dirhem of A.H. 386. An unusual feature is the horizontal line of thick dots running across the centre of both obverse and reverse.

The exact date of the coin cannot be determined, only the last figure of the formula, namely a four, being decipherable. By the time it was minted, 'Alī b. Ja'far had recognized al-Qādir (A.H. 381-422) as Caliph. Since he was still maintaining allegiance to al-Ṭā'ī in 386, we have the possibilities A.H. 394, 404 or 414. Beyond this, one cannot for the moment be more precise.

With regard to the historical background, it is recorded that this 'Alī b. Ja'far pillaged the treasure of the Cathedral of the Living Pillar at Mtskheta. His son, Ja'far, took part in an expedition against Ganja in 421/1030 and died about 1046. Ja'far's two sons, Maṣṣūr and Abū'l Hayjā, quarrelled in their bid for power, and were expelled in 1062 by the Tiflis citizens. They were arrested by the Sultan Alp Arslān on his invasion of Georgia in 1068.¹

By combining the historical and numismatic evidence, we arrive at the following table of Ja'farid Emirs of the period, with their approximate dates:

Ja'far b. 'Alī	A.H. 299	A.D. 912
Maṣṣūr b. Ja'far	342-43	953-55
Ja'far b. Maṣṣūr	364-70	974-81
'Alī b. Ja'far	386-94	996-1003
Ja'far b. 'Alī II	421-38	1030-46
Maṣṣūr b. Ja'far II } Abū'l-Hayjā'	438-61	1046-68

A postscript to this account of the Emirs of Tiflis is provided by the twelfth century Arab historian Ibn al-Azraq. Describing the situation at Tiflis in A.H. 515/1121-22, this writer says: "For forty years the latter had been in the hands of the population. Its possessors had been a family of local people called Banū-Ja'far for about two hundred years, after which the senior members among them became ruined and their affairs got into confusion, and the administration of Tiflis reverted to the population, of whom every month one administered

¹ V. Minorsky, article "Tiflis" in the *Encyclopaedia of Islām*; V. Minorsky, *Studies in Caucasian History*, London, 1953, pp. 19, 23, 46.

its affairs. Thus they carried on for forty years. Malik Dāvūd, (who) was the king of the Gurj and the Abkhāz [i.e. King David the Builder, 1089–1125], brought the town to great straits and it got into confusion.”

Ibn al-Azraq goes on to tell of the Georgian king David's siege of Tiflis in 1122: “Then he breached the walls from the western side and entered the town by the sword. He burnt it and utterly destroyed it, but after three days granted *amān* to its people and soothed their hearts and left them alone, in all goodness. For that year he abrogated their taxes, services, payments by instalments and the *kharāj*. He guaranteed to the Muslims everything they wished, according to the pact which is valid even today. In it (it is stipulated) that pigs should not be brought over to the Muslim side nor to the town, and that they should not be slaughtered there or in the market. He struck dirhams for them, on one side of which stood the names of the sultan and the caliph, and on the other side stood the names of God and the Prophet, on him be peace, (whereas) the king's own name stood on a side of the dirham He assessed a Georgian at a rate of 5 dinars per annum, a Jew at 4 dinars, and a Muslim at 3 dinars. He was extremely kind to the Muslims . . .

“I witnessed all these privileges when I entered Tiflis in the year 548/1153. And I saw how the king of the Abkhāz, Dimitri, in whose service I was, arrived in Tiflis and sojourned there some days. The same Friday he came to the cathedral mosque and sat on a platform opposite the preacher and he remained at his place while the preacher preached and the people prayed and he listened to the *khutba*, all of it. Then he went out and granted for the mosque 200 gold dinars.”¹

This is one of the instances where literary and numismatic data coincide and supplement one another. Copper coins fitting Ibn al-Azraq's description, with the Georgian king's name or monogram on the obverse, and the Caliph's name on the reverse, were indeed struck in large numbers under King David's successor, Dimitri (1125–55). We now know that the presence of the Caliph's name was not a sign of political dependence, but a conciliatory gesture to the Muslim inhabitants of the Georgian capital.

¹ V. Minorsky, “Caucasica in the History of Mayyāfāriqīn,” in *Bulletin of the School of Oriental and African Studies*, XIII, part 1, London, 1949, pp. 31–34.

² Lang

IV. THE GOLDEN AGE OF THE BAGRATIDS

Bagrat III (975-1014)

While the Ja'farid Emirs held sway in Tiflis, the energetic scions of the Bagratid house had risen to power in the south-western marchlands of Tao-Klarjet'i.¹ As a result of their skilful diplomacy and warlike prowess, Bagrat III, King of K'art'li and Kuropalates, found himself from 1008 the ruler of an extensive unified state, including the old kingdom of Abkhazia and parts of south-western Georgia. His authority did not extend to the city of Tiflis itself, which remained the metropolis of the Muslims, though the Georgian dynasts controlled most of the adjoining territory.²

This situation is reflected in the coinage of Bagrat III. A unique silver coin of his reign in the Hermitage collection, while for the most part a slavish imitation of an obsolete type of early 'Abbāsid dirhem, bears on the reverse a legend in Georgian ecclesiastical majuscules (asomt'avruli), reading: O Christ, exalt Bagrat, king of the Abkhazians. This is the only specimen of Bagrat III's coinage to bear a Georgian legend.³

There is however a relatively common transitional prototype, on which no Georgian legend yet appears. This prototype is simply a slavish Georgian imitation of the 'Abbāsid dirhem, which had become scarce in Transcaucasia through the drain of silver currency out of the Near East into Russia and Scandinavia. Three specimens are in the ANS collection.

8. Dirhem Tiflis (?) N.D.

Obv. Crudely inscribed.

¹ On the rare Byzantine-type coins of David the Great of Tao, see Pakhomov, pp. 55-57.

² W. E. D. Allen, *A History of the Georgian People*, London, 1932, pp. 84-85.

³ Langlois, in *Revue de la Numismatique Belge*, 1864, pp. 202-5; Pakhomov, *Monety Gruzii*, pp. 58-60, Pl. III, No. 37.

لا اله الا	There is no god but
(sic) اله ادم	Allāh alone.
(sic) لاشك له	He has no associate.

Margin: Illiterate imitation of Arabic pious legend.

Double border of dots.

Rev. Crudely inscribed.

محمد	Muḥammad
(sic) رسو	Is the Messenger
الله	Of Allāh

Beneath, on one specimen only:

(sic) تيفيس	Tif[1]is
-------------	----------

Margin, between border of dots and outer linear border: Illiterate imitation of Arabic pious legend.

AR 22–23 mm. 1.57–1.80 gr.

PLATE I, II, 12.

Pakhomov, *Monety Gruzii*, p. 60, Pl. III, Nos. 38–39.

The specimen bearing the distorted mint name Tiflis beneath the reverse inscription appears to be unique. So far as can be ascertained, Bagrat III was never in control of that capital city. On the other hand, if these imitations had been struck by the Ja'farid Emirs, one would have expected a higher degree of literacy in the Arabic inscriptions. However this may be, there is no doubt that these coins were current in Georgia under Bagrat III, to whose reign they may most conveniently be attributed.

* * *

Of Bagrat IV (1027–72) we have silver coins of Byzantine affinity, showing on the obverse the Holy Virgin, and having on the reverse a pious formula embodying the king's Byzantine titles of Nobilissimus

1*

and Sebastos. His son and successor Giorgi II (1072–89) retained this style of design, inscribing on the reverse his imperial title of Caesar.

During these two reigns, Georgia suffered greatly from the depredations of the Seljuk Turks, who occupied the Armenian capital of Ani in 1064, raided Eastern Georgia in 1068, and defeated the Byzantine army at Manazkert in 1071, capturing the Emperor Romanus Diogenes.

Under David the Builder (1089–1125), important victories were won over the Turks, whose military potential was impaired by the campaigns of the Crusaders in the Levant. The Seljuks were rapidly ejected from most of Georgia, and Tiflis was re-taken from the Muslims in 1122.

David the Builder's coins are extremely rare: the few pieces as yet known retain the image of the Holy Virgin on the obverse, and show on the reverse a cross surrounded by the king's name and titles.

Dimitri I (1125–55) minted copper only. Several patterns of his coinage are known, abandoning Byzantine forms in favour of reversion to a hybrid Georgian-Muslim type. The obverse of one variety has the king's initial "D" in Georgian ecclesiastical majuscule, together with his title "Sword of the Messiah" in Arabic, while the reverse, from motives of political expediency, bears the name of the Caliph of Baghdad.¹

David V's short reign, possibly cut short by assassination, has apparently left us no coins.

Giorgi III (1156–1184)

Giorgi was a monarch of ferocious and determined disposition. He came to the throne after a sanguinary family feud, excluding and suppressing the legitimate heir, Demna, grandson of King Dimitri I.

In the absence of any example of Giorgi's coinage in the ANS collection, the opportunity has been taken to include a copper coin of his reign from the collection of Mr. William L. Clark.

¹ For the monetary series of these reigns, which are not represented in the ANS collection, see Pakhomov, *Monety Gruzii*, pp. 61–86. Karst's p. 48, No. 10, attributed to David the Builder, really belongs to the two Davids, Narin and Ulugh (c. 1261). Pakhomov's is the only work to do justice to this rather obscure period of Georgia's numismatic history.

9. Copper [Tiflis] A.D. 1174.

Obv. King seated cross-legged, facing. On his head, a crown with hanging tassels, surmounted by a cross. The king is bearded and attired in a close-fitting tunic, loose trousers after the Persian fashion, and boots. His left hand rests on his thigh, on his right hand uplifted sits a falcon. To the right of the king's head (as viewed by the spectator), in Georgian mkhedruli characters: $\overline{\delta o}$ GiorgI.

Below, right, a monogram formed from the Georgian ecclesiastical characters კი (GiorgI).

Under monogram, traces of Georgian ecclesiastical characters: კონი K'oRoniKons.

To left, between falcon and king's head, traces of ecclesiastical characters წმ , representing the date 394 of the Paschal Cycle, or 1174 A.D.

Rev. ملك الملوك

King of Kings

გიორგი ბენ დემტრის

Giorgi, son of Dimitri,

حسام المسيح

Sword of the Messiah.

Border of dots.

Æ 22 mm. 4.96 gr.

PLATE II, 1.

M. Barataev, *Numizmaticheskie fakty Gruzinskogo tsarstva*, St. Petersburg, 1844, section III, Pl. I, pp. 6-12; V. Langlois, *Essai de Classification des Suites Monétaires de la Géorgie*, Paris, 1860, p. 55, Pl. IV, No. 1; Pakhomov, *Monety Gruzii*, p. 90, Pls. VI, Nos. 107-8 and VII, No. 109.

It is noteworthy that from Dimitri I (1125-55) until the reign of Rusudan, copper only was minted in Georgia. This was a result of the silver famine affecting the entire Near East at this period. "Shortly before the year 1000 A.D., a remarkable, omnipresent shortage of silver affected the Mahometan world. Within a brief space of time it practically ceased to be coined at all in the majority of the Islamic states and fractional currency in base metals took its place alongside of the gold dinars, which continued to circulate."¹ In Georgia, many of these fractional copper coins still bore on them the denomination "vetskhli," which properly signifies a silver piece.

¹ Robert P. Blake, "The Circulation of silver in the Moslem East down to the Mongol epoch," in *Harvard Journal of Asiatic Studies*, II, 1937, p. 291.

Among the complex causes for this phenomenon features the expansion of the Russian and Scandinavian export trade to the Islamic world, resulting in the draining off of silver currency to the North Western Slavonic and Baltic lands. The effect of this became acute when the Arabs lost control of the Transcaucasian silver mines late in the ninth century, and the local rulers showed themselves deficient in mining and refining technique. Furthermore, the tottering Sāmānid dynasty lost control about the year 975 of the important Zarafshān silver mines in Turkestan, which had supplied the whole Muslim East. The upheavals incident on the disintegration of the 'Abbāsīd caliphate, together with the ruin of the Bulgar kingdom on the Volga, interrupted trade relations between Russia and the Near East. Accumulations of silver by Russian exporters were hoarded, and never returned to their source. The Seljuk invasions of the eleventh century ended by driving a wedge between the Slavonic and Arab worlds. Georgia could not remain unaffected by these developments, though the minting of silver there continued until the reign of David the Builder (1089–1125).

This famine was brought to an end during the thirteenth century. The Mongol conquest of China in 1213 drew off large quantities of silver to the West, where it was seized upon by the trading public and put into circulation.¹ In Georgia, the restoration of the silver supply was to enable Queen Rusudan to reform the coinage by the issue of her famous "Botinats" of the year 1230.

Queen T'amar (1184–1213)

The name of T'amar is endowed with legendary splendor in the annals of Georgia. The military might of the Georgian kingdom made itself felt throughout Persia and Eastern Anatolia, while the national literature reached its apogee in the heroic romance of Shot'a Rust'aveli.

The coinage of T'amar's reign is disappointing, and fails to reflect the glory of the age. Surprisingly enough, no attempt was made to strike gold. Owing to the silver famine, copper fractional currency provides the only monetary series of the reign. Even here, the work-

¹ Blake, "The Circulation of silver," p. 328.

manship leaves much to be desired. The irregular coppers are little more than rudely fashioned lumps of metal of various sizes, stamped haphazardly with a die often too big or too small for the planchet.

T'amar's father, Giorgi III, had already proclaimed her as co-regent some six years before his death. T'amar's first husband, a dissolute scion of the Bogolyubskoy family of Suzdal, was also called Giorgi (Yury). There is therefore some difficulty in attributing the earliest type of T'amar's coinage, which is inscribed with the names of both Giorgi and T'amar, but without date. Pakhomov inclines to the view that this Giorgi is the Bogolyubskoy Prince-Consort while Kapanadze cogently argues for the attribution to Giorgi III reigning with his daughter.¹ As it seems quite inadmissible that the title "King of Kings" borne by the Giorgi on these coins could apply to a mere Prince-Consort, Kapanadze's view is to be preferred.

The first type of the coinage of T'amar to be represented in the ANS collection consists of the irregular coppers issued in the Queen's name alone. The legends, fragmentary on each example, have been reconstructed from all four specimens and from the literature.

10. Irregular Copper, cast planchet. A.D. 1187 and 1210.

Obv. In centre, the monogram: 

representing the letters თამარ, T'amar, in the Georgian mkhedruli or knightly hand. The monogram is surrounded by a wreath of rosettes.

Margin: In Georgian ecclesiastical majuscules:

+სჲგოც ოცე იჲგე სტენ
 ზგეზენი ზგე ჯგეგენი ჯგ

abbreviated for "Sakhelit'a ghvt'isait'a ik'na tcheday vetskhliis amis K'oronikonsa 407": In the name of God, was made the striking of this silver piece in the K'oronikon 407, i.e. A.D. 1187.

In another variety, the last two letters read ჯგ, i. e. 430 of the K'oronikon, or A.D. 1210.

Border of dots.

¹ Pakhomov, *Monety Gruzii*, pp. 97-99; D. Kapanadze, "Giorgisa da T'amaris sakhelit' motchrili p'ulis shesakheb," in *Sak'art'velos sakhelmdsip'o muzeumis moambe*, XIIB, 1944, pp. 191-96; Kapanadze, "O mednoy monete s imenami Georgiya i Tamary," in *Kratkie soobshcheniya Instituta Istorii Material'noy Kul'tury*, fasc. XXIV, 1949.

Rev. الملكة المعظمة	The great Queen
جلال الدنيا والدين	Glory of the World and Faith
تامار بنت كيوركى	Tamar daughter of Giorgi
ظهير المسيح	Champion of the Messiah
اغز الله انصار	May God increase [her] victories. ¹

Margin: ضاعف الله جلالها ومدّ ظلالها وايد اقبالها

May God increase her glory and lengthen her shadow and strengthen her beneficence!

Border of dots.

- Æ a) 16 mm. 5.00 gr.
 b) 11 × 18 mm. 2.48 gr. Counterstamp.
 c) 20 × 30 mm. 11.48 gr. Counterstamp.
 d) 16 × 40 mm. 10.31 gr. Counterstamp.

Barataev, *Num. fakty*, section III, Pls. II–III; Langlois, *Essai*, p. 60, Pl. IV, Nos. 5–9; Pakhomov, *Monety Gruzii*, pp. 99–100, Pls. VII, Nos. 118–27 and VIII, Nos. 128, 131.

PLATE II, 2 (Obv. only), 3–5.

The irregularity and defective workmanship of these coins, one of the commonest of the Georgian series, may reflect hasty improvisation entailed in providing large quantities of currency of low denomination for the extensive territories temporarily annexed during T'amar's reign. The rude fabric is similar to that of some of the ShIrvānshāhs' and Kings of Qarabāgh's coppers of the late twelfth and early thirteenth centuries. It may be that some of these irregular coppers were struck under Georgian supervision in the mints of these

¹ None of the specimens examined or illustrated in the literature has the feminine possessive termination *hā-alif*. Pakhomov's Nos. 121 and 125 exhibit what seems to be the masculine termination *hā*, which makes the last line read: "May God increase his victories." This may either be a grammatical oversight, or refer back to the preceding line, where the Queen is given the masculine title of Champion. This confusion is hardly surprising, especially when it is remembered that T'amar bore the Georgian title of Mep'e, which means King.

localities, which were under more or less direct Georgian suzerainty at this period.¹ This would explain the counterstamps found on the vast majority of coins of this type, which in this case could have been applied by the central authority to validate them for general circulation.

The only dates that occur on coins of this issue are 407 and 430 of the Paschal cycle (A.D. 1187 and 1210). There is however no doubt that they were struck intermittently for a number of years. Very often the date falls outside the flan. Of the four specimens in the ANS collection, only one, example (d), can be dated, the letter L, value 30, followed by a cross, being preserved in the obverse margin, giving the year 430, or A.D. 1210.

Three of our four specimens are counterstamped.² Examples (b) and (c) have the Georgian ecclesiastical majuscule letter D, with a dot in the centre, in an oblong incuse, thus: —



This counterstamp is peculiar to T'amar's irregular coppers.³

Example (c) has a second counterstamp (Pakhomov's figure 7), which can be identified as part of the cipher of Queen Rusudan, and was doubtless applied during her reign (1223-45): —



Example (d) has a different counterstamp, also representing part of Queen Rusudan's cypher, this time within an ornamental border:⁴



¹ The first irregular coppers were struck under Dimitri I (1125-55), who employed some mint-masters from Shīrvān (A. Bykov, "Gruzinskie monety XII-XIII vv.," in *Pamyatniki epokhi Rustaveli*, Leningrad, 1938, p. 80.)

² See Pakhomov's comprehensive study of XII-XIII century Georgian counterstamps in *Monety Gruzii*, chapter V.

³ Pakhomov, p. 124, figure 2.

⁴ Pakhomov, p. 124, figure 6. In addition to the ANS examples, four specimens of this type, from a hoard, have been shown to us by a New York collector. They have semi-regular round planchets, 14-16 mm. in diameter, and weigh between 1.70 and 4.20 grammes, two having the "D with dot" and two the Rusudan cypher counterstamp. They may represent an attempt to standardize the issue, and have been intended to pass as quarter dirhems.

After her divorce from the reprobate Giorgi Bogolyubskoy, T'amar married in 1193 David Soslan, an Ossetian prince with Bagratid blood in his veins. She bore him the future King Giorgi Lasha and the future Queen Rusudan. David Soslan was a constant source of aid and support in T'amar's military and political enterprises until his death in 1208. An important set of coppers, this time of regular planchet, were struck in their joint names.

11. Regular copper. A.D. 1200.

Obv. In centre, a symbol resembling a military standard or a crossbow, upright. To left and right, $\overline{\text{D}}\overline{\text{J}}$ — $\overline{\text{D}}\overline{\text{D}}$ for T'amar – Davit'. In the corners, the Georgian ecclesiastical majuscules ⴗⴚⴛⴓ K'.K.Vi.K, i.e., 420 of the Paschal cycle, or 1200 A.D.

Border of linked dots.

Rev.	ملكة الملكات	Queen of Queens
	جلال الدنيا والدين	Glory of the World and Faith
	تامار ابنة كيوركى	Tamar daughter of Giorgi
	ظهير المسيح	Champion of the Messiah.

Border of linked dots.

Æ	a) 26 mm.	5.41 gr.	Counterstamp.
	b) 27 mm.	7.80 gr.	2 Counterstamps.
	c) 28 mm.	9.21 gr.	Counterstamp.

Barataev, *Num. fakty*, section III, Pl. III; Langlois, *Essai*, pp. 65–66, Pl. V, Nos. 1–3; Pakhomov, *Monety Gruzii*, pp. 103–4, Pl. VIII, Nos. 132–35. There is also a variety without the Georgian date formula.

PLATE II, 6–8.

Examples (a) and (b) have a counterstamp made up of the Georgian ecclesiastical majuscule D, together with a symbol resembling an Arabic *sīn* (Pakhomov's figure 3), thus: $\overline{\text{D}}\overline{\text{J}}$

The counterstamp on example (c) takes the following form (Pakhomov's figure 4): $\overline{\text{D}}\overline{\text{J}}$

Example (b) has this counterstamp on the obverse, in addition to having the previous one on the reverse.

It is worth noting that these counterstamps are never found on T'amar's irregular coppers; nor do those on the irregular series occur on the regular type.

Giorgi Lasha (1213-23)

The coins of this monarch are not represented in the ANS collection. They are all copper and, as under T'amar, belong to both regular and irregular type.

Giorgi Lasha's irregular coppers bear the date 1210 (430 of the K'oronikon), showing that his mother transferred a large part of the royal authority to Giorgi about this time. The obverse resembles that of T'amar's irregular issue, except that the centre bears the inscription "GI DZE T'MRSI", abbreviated for "Giorgi, son of T'amar," in ecclesiastical majuscules. The reverse inscription consists of Giorgi's name and titles in Arabic. There is an example of this type in the Chase National Bank Museum of Moneys of the World in New York, with a very clear impression of Queen Rusudan's counterstamp.¹

The regular coppers of Giorgi Lasha have on their obverse an inscription which has not so far been satisfactorily deciphered. The concluding portion of it, which reads "JAVKhT'OIA", is usually expanded as "JAVAKhT' UP'LISA," or Lord of the men of Java-khet'i, a region of South-Western Georgia.² But there is no historical evidence that Giorgi Lasha had any special connection with this relatively minor section of his kingdom. It would seem more logical to seek the explanation of this enigma in the shape of some religious formula, bearing in mind that the letter J in Old Georgian inscriptions regularly stands for "Jvari," the Christian cross.

¹ Kindly shown to me by the Curator, Mr. Vernon L. Brown. Unfortunately, this specimen proved as a whole to be too much rubbed for reproduction. See full description in Pakhomov, *Monety Gruzii*, pp. 106-9.

² Pakhomov, *Monety Gruzii*, pp. 109-10.

Queen Rusudan (1223-45)

The reign of T'amar's daughter Rusudan was marked by a series of catastrophes, ending in the complete subjugation of eastern Georgia by the Mongols.

Expelled from his Central Asian dominions by the advancing Mongols, the Shah of Khwārazm Jalāl al-Dīn Menkūberti occupied most of Persia and in 1225 inflicted a signal defeat on the Georgian army at Garni. In the following year he took Tiflis and captured the royal treasury. The city remained in Khwārazmian hands until 1230. Jalāl al-Dīn was overthrown by the Mongols, and in 1231 assassinated by a Kurd.¹

Jalāl al-Dīn celebrated his conquest of Georgia by overstriking the large quantities of Georgian irregular coppers which fell into his hands.

12. Irregular coppers, overstruck. A.H. 623/1226 A.D.

Obv.	السلطان	The Sultān
	المعظم	Supreme.

Margin: ضرب هذا الدرهم بتاريخ ثلث وعشرين وستماية

This dirhem was struck in the year 623.
Linear border.

Rev.	جلال الدنيا	Jalāl al-Dunyā
	والدين	wa'l-Dīn.

Margin: ضاعف الله جلاله ومدّ ظلاله وايد اقباله

May God increase his glory and lengthen his shadow and strengthen his beneficence!
Linear border.

¹ V. Minorsky, article "Tiflis" in *E.I.*; Nasavī, trans. by Necip Asım, *Celālüttin Harezemşah*, Istanbul, 1934 (p. 76 on the capture of Rusudan's treasure).

- Æ a) 25 × 30 mm. 21.15 gr.
 b) 28 × 40 mm. 15.79 gr. (Fish-shaped planchet)
 c) 24 × 32 mm. 16.21 gr. Counterstamp.

Barataev, *Num. fakty*, section III, Pl. VII; Pakhomov, *Monety Gruzii*, pp. 112–16, Pl. IX, Nos. 151–54.

PLATE II, 9 and III, 1–2.

On the reverse of example (a), part of the coin's original obverse legend, namely the Georgian ecclesiastical majuscules of "Vetskhli," is plainly visible beneath the overstrike. This portion of the legend is common to irregular coppers of both T'amar and Giorgi Lasha.

The fish-shaped planchet of example (b) suggests that this is an overstrike on a copper of Giorgi Lasha rather than of T'amar. Giorgi's irregular coppers assume other fantastic shapes, such as those of birds, crescents, etc.¹

Example (c) is counterstamped with the plain cipher of Queen Rusudan (Pakhomov's figure 7), applied on top of Jalāl al-Dīn's restrike in such a way as to obliterate the end of the word "Sultān." Pakhomov affirms that when this counterstamp is found in conjunction with Jalāl al-Dīn's restrike on Georgian irregular coppers, the counterstamp is always seen beneath (i.e., applied previously to) the Khwārazmian Shah's restrike.² This conflicts with the evidence of our specimen, as well as that of several illustrated in the literature.³ An example in a private collection in New York has the counterstamp "D with a dot" applied before Jalāl al-Dīn's restrike, and the Rusudan cipher counterstamp applied on top of Jalāl al-Dīn. Pakhomov must surely be mistaken in thinking that the Rusudan cipher counterstamp was used only up to 1226. The evidence shows conclusively that it was also used afterwards, to revalidate the coins so roughly treated by the invader.

* * *

¹ Pakhomov, *Monety Gruzii*, diagram facing p. 116.

² *Ibid.*, p. 127. Bykov, in *Pamyatniki epokhi Rustaveli*, p. 89, repeats this statement.

³ W. H. Valentine, *Modern Copper Coins of the Muhammadan States*, London, 1911, p. 117, No. 37. This example is copied, via Langlois, from Barataev, section III, Pl. VII, No. 1. Cf. also Barataev's Nos. 6, 8 and 10. An example in the Cabinet des Médailles, and several in the British Museum collection, have Rusudan counterstamps clearly applied on top of (i.e., subsequently to) Jalāl's restrike.

While Jalāl al-Dīn and his followers were in control of Tiflis and most of eastern Georgia, Queen Rusudan and her court were at K'ut'ais in western Georgia, the capital city of Imeret'i. In all probability, it was there that Rusudan's copper coins of 1227 were first struck. However, the abundance in which they are found and the numerous minor variations in design suggest that they continued to be struck after the Queen's return to Tiflis in 1230, though they all bear the date 1227.

13. Regular coppers. [K'ut'ais and Tiflis] A.D. 1227.

Obv. In centre, the letters $\overline{\text{R S N}}$, RSN, for Rusudan, surmounted by a sign of abbreviation, the whole surrounded by an ornamental device similar to that employed on the counterstamps of Rusudan's reign:



Into the fringe of this motif are woven the Georgian ecclesiastical majuscules ⴌ ⴎ ⴐ ⴑ ⴒ ⴓ , K'.K.N.Vi.M.Z., for K'oronikons 447, or 1227 A.D.

Linear border.

Rev. الملكة الملوك والملكات	Queen of Kings and Queens,
جلال الدنيا والدولة والدين	Glory of the World, Kingdom and Faith,
روسدان بنت تامار ظهير المسيح	Rusudan, daughter of Tamar, Champion of the Messiah,
اعز الله انصاره	May God increase [her] victories. ¹

Border of dots.

Æ 23–28 mm. 3.66, 3.97, 5.05, 5.28, 5.46, 7.15 and 9.49 gr.

Barataev, section III, Pl. VI; Langlois, *Essai*, p. 72, Pl. VI, Nos. 2–3; Pakhomov, *Monety Gruzii*, pp. 116–18, Pls. IX, Nos. 156–57 and X, Nos. 158–59. Pakhomov's estimate of the average weight as 2.65 gr. is too low.

PLATE III, 3–5.

¹ The same vagueness of gender occurs here as on the reverse of T'amar's irregular coppers, No. 9, *q.v.* In the formulation of this title, Rusudan has taken a leaf out of the book of her foe, Jalāl al-Dīn.

The reoccupation of Tiflis by Rusudan in 1230 is marked by the resumption of silver minting after the lapse of over a century. Byzantine in affinity of design, this series belongs in format and weight to the Near Eastern dirhem standard.

14. Dirhem [Tiflis] A.D. 1230.

Obv. Bust of Christ, bearded, facing, head and shoulders length, mantle and nimbus. Right hand in blessing, left holding Book of Gospels with three pellets on cover. In field: $\overline{\text{IC}}$ $\overline{\text{XC}}$

Margin: $\overline{\text{N}}\overline{\text{C}}\overline{\text{H}}\overline{\text{I}}\overline{\text{S}}\overline{\text{I}}\overline{\text{T}}\overline{\text{A}}\overline{\text{I}}$ $\overline{\text{N}}\overline{\text{C}}\overline{\text{H}}\overline{\text{I}}\overline{\text{S}}\overline{\text{I}}\overline{\text{T}}\overline{\text{A}}\overline{\text{I}}$ $\overline{\text{N}}\overline{\text{C}}\overline{\text{H}}\overline{\text{I}}\overline{\text{S}}\overline{\text{I}}\overline{\text{T}}\overline{\text{A}}\overline{\text{I}}$
+ $\overline{\text{N}}\overline{\text{C}}\overline{\text{H}}\overline{\text{I}}\overline{\text{S}}\overline{\text{I}}\overline{\text{T}}\overline{\text{A}}\overline{\text{I}}$ (sic) $\overline{\text{N}}\overline{\text{C}}\overline{\text{H}}\overline{\text{I}}\overline{\text{S}}\overline{\text{I}}\overline{\text{T}}\overline{\text{A}}\overline{\text{I}}$

abbreviated for: Sakhelit'a Ghvt'isit'a¹ itchda K'. EB (sic) Vi.N. (450), i.e., In the name of God, was struck in the K'oronikon EB (sic) 450, or A.D. 1230.

Border of dots.

Rev. $\overline{\text{N}}\overline{\text{C}}\overline{\text{H}}\overline{\text{I}}\overline{\text{S}}\overline{\text{I}}\overline{\text{T}}\overline{\text{A}}\overline{\text{I}}$ = RSN, for Rusudan.

Round this, double linear border containing ornamental pattern of stars and crescents.

Outer margin: Traces of

الملكة الملكات جلالة (sic) الدنيا والدين رسودان بنت تمار ظهر المسيح

Queen of Queens, glory of the World and Faith, Rusudan, daughter of Tamar, champion of the Messiah.

R 23 mm. 2.70 gr.

PLATE III, 6.

Barataev, section III, Pl. VI; Langlois, *Essai*, p. 73, Pl. VI, Nos. 4-6; Pakhomov, *Monety Gruzii*, pp. 118-22, Pl. X, Nos. 160-74.

The design of the bust of Christ on the obverse is taken from the nomisma of the Byzantine emperor Nicephorus III Botaniates (1078-81).² This explains why these silver dirhems of Rusudan are referred to in Georgian medieval charters as "Botinati" or "Botin-auri."³

They should not however be confused with the gold "Botinati" circulating in Georgia at this period, which are the authentic By-

¹ Most examples have the more correct form Ghvt'isit'a.

² Cf. Wroth, *Catalogue of the Imperial Byzantine Coins in the B.M.*, II, London, 1908, p. 535, Pl. LXIII, No. 4.

³ Langlois, *Essai*, p. 73.

zantine gold pieces of Nicephorus III and are not infrequently discovered within the historical boundaries of Georgia.¹ In the absence of indigenous gold currency, the Byzantine nomisma enjoyed great favor in Georgia, particularly between the eleventh and thirteenth centuries. Besides this gold Botinati, such terms as Kostantinati and Perpera occur in deeds of gift to monasteries, while the will and testament of King David the Builder contains mention of the *dukati* or ducat, the gold piece of the Emperor Constantine X, Dukas (1059–67). The regular circulation of Byzantine gold in Georgia led the thirteenth century geographer Zakariyā al-Qazvīnī to conclude that it was actually minted at Tiflis. “One finds there”, he says in his *Āthār al-bilād*, “the dinar which is called *perpera*. It is a good coin, hollow and of concave shape, bearing Syriac legends and images of idols. . . It is the money of the land of the Abkhazians and the work of their kings.”² (It is not hard to recognize behind this quaint description the standard Byzantine scyphate nomisma). It would be wrong to follow Kakabadze in supposing that the Georgians minted their own scyphate gold pieces,³ for which there is no numismatic evidence. The capture of Constantinople by the Crusaders in 1204 interrupted the direct flow of Byzantine gold into Georgia, with the result that it gradually disappeared from general circulation there.

In addition to these data on the circulation of Byzantine gold within Georgia itself, it is worth noting that the Georgian monks of the Iberian Monastery on Mount Athos were keeping account of gifts from pious benefactors in terms of drahkani or bezants called “Dukati” (after Constantine X), “Romanati” or “Hromanati” (after Romanus IV, Diogenes, 1067–71), “Dukamikhaylati” (after Michael VII, Dukas, 1071–78) and “Votoniati,” sometimes corrupted into “Potonati” (after Nicephorus III), as well as hyperpera “Alek’siati” (after Alexius Comnenus, 1081–1118).⁴

¹ E. A. Pakhomov, *Klady Azerbaydzhana i drugikh respublik i kraev Kavkaza*, fasc. II, Baku, 1938, No. 407; T. Lomouri, in *Shot’a Rust’avelis epok’is materialuri kultura*, Tiflis, 1938, pp. 300–1. ² Cited by Langlois, *Essai*, p. 48.

³ S. Kakabadze, “Sap’asis istoriisat’vis Sak’art’veloshi,” in *Saistorio moambe*, II, fasc. 1, Tiflis, 1925, pp. 1–35.

⁴ M. Janashvili, *At’onis Iveriis monastiris 1074 ds. khelnadseri, aghapebit’*, Tiflis, 1901, pp. 216–77; R. P. Blake, “Some Byzantine accounting practices illustrated from Georgian sources,” in *Harvard Studies in Classical Philology*, LI, 1940, pp. 11–33.

To revert now to the description of Rusudan's silver coin of 1230, it is curious to note that the Queen's name is regularly transliterated on the Arabic legend of this series as Rusūdān, whereas the coppers have Rūsudān.¹ On the specimen in the ANS collection, this part of the legend is effaced. A most curious feature of this example, however, is the insertion into the obverse Georgian legend of what can only be read as the majuscules E.B., between the K' (for K'oronikons) and the letters Vi.N., for year 450 of the Paschal cycle. None of the specimens illustrated in the literature has this peculiarity. It can hardly represent the plural suffix *-eb(s)*, since "K'oronikon" is invariably used in the singular in such a context. Nor can one seriously entertain the theory that E.B. stands for "Eras Bagrationt'a" (or "Epok'is Bagrationt'a"), for "Era or Epoch of the Bagratids," as such a formula has never been recorded on the hundreds of medieval coins and documents known to us. The solution of this point must await further investigation.

¹ Pakhomov (*Monety Gruzii*, p. 117) was the first to notice this.

V. GEORGIA UNDER THE MONGOLS

The latter half of Rusudan's reign was a period of unrelieved disaster. In 1236, the armies of the Mongols, sweeping all before them, advanced from Ganja towards Tiflis. The country had scarcely recovered from the depredations of Jalāl al-Dīn, and its citadels were in no state to resist the invaders. The Queen and her court had to flee once more into Western Georgia, and the land was given over to the conquerors.

After a few years, Rusudan offered her submission to the Mongol noyans. Her son David (surnamed by the Mongols Nārīn, i.e., the slender, well-proportioned) was sent to the Great Khan's headquarters at Karakorum to pay homage and be invested with the vassal kingship of Georgia. Meanwhile, the Mongols defeated Rusudan's son-in-law, the Seljuk Sultan of Iconium, in 1243. This resulted in the liberation of Rusudan's hated nephew, also called David, an illegitimate son of the Queen's late brother, King Giorgi Lasha. The Sultan had been acting as custodian and jailor of this David, whose large, burly stature later caused him to be nicknamed Ūlūgh, the big. A popular movement of hostility towards Rusudan and her heir was cleverly exploited by the Mongol overlords of Georgia, who had Ulugh David crowned at Mtskhet'a and sent him after his cousin to pay homage at Karakorum. The two Davids were present at the inauguration of Güyük Khan in 1246, after which they returned to Tiflis to rule jointly under Mongol supervision.

Queen Rusudan had already died in 1245, according to some accounts, by suicide, to others, as a result of her notorious debaucheries. The co-kings resided jointly at Tiflis on terms of amiable co-operation, until Hulagu Khan, who arrived in Persia in 1256, took a dislike to David Nārīn. The latter fled to K'ut'ais and established a separate monarchy in Western Georgia.¹

¹ Sir Henry Howorth, *History of the Mongols, Part III: The Mongols of Persia*, London, 1888, pp. 23-61; Allen, *History of the Georgian People*, pp. 112-16; Minorsky, "Tiflis," in *E.I.*

These events are fully reflected in the monetary history of the period.

First Mongol Occupation Series (Regency of Queen Turakina)

The ANS has a number of silver dirhems minted at Tiflis, as well as at Ganja and Tabriz, in A.H. 642-43, by authority of the Commander-in-Chief of the Mongol armies. Queen Turakina, widow of the Great Khan Ogotay (Ögödei), was regent of the Mongol dominions.

15. Dirhem Tiflis A.H. 642/1244-5 A.D.

Obv. Galloping horseman, to left, turned in the saddle and drawing bow to the right; behind, stork; beneath horse, hound. In some cases, the stork is changed into a star or Solomon's seal, and the hound replaced by obscure shapes suggesting either a serpent or foliage. Other examples, of uncertain mint, show the horseman galloping to right instead of to left.

Above: الغ منقل الوش بيك

The Great Mongol Viceroy (Commander-in-Chief)

Border of dots.

Rev. لا اله الا There is no god but

الله محمد Allāh: Muḥammad

رسول الله Is the Messenger of Allāh.

Margin in four segments has Arabic mint-date formula: Tiflis, 642.

Border of dots.

℞ 21-22 mm. 2.67-2.85 gr. PLATE III, 7-8 and IV, 1.

S. Lane-Poole, *The Coins of the Mongols in the British Museum*, London, 1881, No. 1.

The obverse legend, reading "The Great Mongol Alūsh (Ulūsh) Bek," has given rise to some speculation. Unsuccessful attempts have been made to interpret this as a proper name or honorific title. A simpler and more convincing explanation is that Ulūsh Bek, which

3*

also occurs in the form *Ulūs Bek*, is connected with the Uigur word *Ulus*, *Ūlūs* or *Ulūs*, meaning nation, great clan or horde. Radlov gives *Ulus* and *Ulush* as alternatives.¹ According to Budagov, *Ulūs Bek* or *Amīr al-Ulūs* were titles indicating a rank equivalent to that of a Viceroy of the Caliph in Islam. In this, he follows Ibn Baṭūṭa, who says that “*Amīr al-Ulūs*” corresponds to “*Amīr al-Umarāʾ*.”² The sense of the legend thus amounts simply to “[Money issued by] the Great Mongol Viceroy (Supreme Commander).”

The absence of any reference to the Great Khan of Karakorum need cause no surprise, since nominal power resided with Ogotay's widow Turakina pending the election of a new Great Khan. The Commander-in-Chief in Persia and Transcaucasia was Baiju (Bichui), a nominee of Turakina. There is no need to see, as does Lane-Poole, the minting of these coins as a pretension to sovereignty on some pretender's part.³

It is worth noting that the galloping bowman design of this Turakina series closely resembles that of the copper coins minted at Erzerum by the local Turkish dynast Muḥammad ibn Salduq (c. 1174–1200), a vassal of the Seljuks of Rum.⁴ It is natural that this motif should have appealed to the Mongols, who are in fact known to contemporary Armenian chroniclers as “the nation of the Archers.”

Co-regnancy of the Two Davids

While the two cousins were absent at Karakorum, copper coins were already being minted in Georgia in the name of David Narin, son of Rusudan. The first of these were struck in 642/1244–5 at

¹ V. V. Radlov, *Opyt slovarya Tyurkskikh narechii*, I, St. Petersburg, 1893, pp. 1696–97. In Sino-Mongolian official terminology, “*Yeke Mongghol ulus*” was regularly used to signify “The Great Mongol Empire” (Francis W. Cleaves, “The Sino-Mongolian inscription of 1362,” in *Harvard Journal of Asiatic Studies*, XII, Nos. 1–2, 1949, pp. 94–95.)

² Lazar Budagov, *Sravnitel'ny slovar' Turetsko-Tatarskikh narechii*, I, St. Petersburg, 1869, pp. 88–89. Ibn Baṭūṭa, ed. Defrémery and Sanguinetti, II, 395.

³ Cf. Lane-Poole, *Coins of the Mongols*, p. liii.

⁴ Illustrated by Tiesenhäusen, *Mélanges de numismatique orientale*, II (*Extrait de la Rev. Num. Belge*, 1875), p. 55, also by Lane-Poole, *B.M. Or. Cat.*, IX, No. 310a.

Dmanisi, then an important trading centre, situated in K'art'li about a hundred kilometres to the south-west of Tiflis. The minting of this series was then transferred to Tiflis (A.H. 645, 647, 650/1247-53 A.D.).¹

The ANS collection does not include any of David Narin's coppers, but it has an interesting variety of his silver dirhem of 1247.

16. Dirhem Tiflis Year of the Paschal Cycle 467/1247 A.D.

Obv. The king on horseback, left; beneath, foliage and obscure shapes, possibly representing hound. Above, left, royal monogram formed of the two Georgian majuscules ფე , D.T., for Davit'. Above, right Georgian majuscules ქეჟს , for K'oronikons 467, or 1247 A.D. Border of dots.

Rev.	بقوة خدا	By the power of God
	دولة كوك...	Dominion of Kūyuk (or Gūyuk)
	قان بنده	Qā'ān — Slave,
	داود [ملك]	Dā'ūd [King.]

Vertically upwards, at right:

ضرب تيفليس	Minting of Tiflis.
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Border of dots.

℞ 23 mm. 2.58 gr.

PLATE IV, 2.

Cf. the standard type illustrated by Barataev, *Num. fakty*, section III, Pl. VIII, Nos. 1-2 and Langlois, *Essai*, Pl. VII, No. 1.

The design of the obverse belongs to a familiar Anatolian pattern, which also features on a number of issues of the Armenian kingdom of Cilicia. A parallel may be drawn between this Georgian type and

¹ Langlois, *Essai*, pp. 82-83, erroneously ascribes this series of coppers to David Ulugh, forgetting that David Narin also ruled for several years with his cousin at Tiflis. The mint-name Dmanisi was first read by Professor Giorgi Tseret'eli of Tiflis University (G. Tseret'eli, "Dmanisis monetis gamo," in *Literaturuli dziebani*, II, Tiflis, 1944, 167-72.) It had previously been taken for a misspelling of Tiflis. For further details, see T'. Lomouri, "XIII saukunis K'art'uli p'ulis sakit'kht'a gamo," in the Tiflis Museum *Moambe*, XB, 1940, pp. 123-24.

that of the coins of Kaikhusrau I, Sultan of Iconium (1192–1200), with which the Georgians were undoubtedly familiar. A clear distinction is to be made between the sedate pose and regal gait of equestrian figures of this group, and the energetic galloping movement of the archer on the Turakina series.

This is the only specimen so far published portraying the king riding to left, instead of to right.¹ The royal monogram and the Georgian date formula have changed places to fit the new arrangement of the design. Some examples of the Turakina galloping archer type show a comparable reversal of the obverse design.

With regard to the reverse, the Persian inscription, except for the word “bandeh”, was completely deciphered by Prince Barataev. Langlois tried to improve on Barataev’s reading, but produced a rendering which conflicts with the specimens illustrated in the literature, as well as this ANS variant specimen.² Langlois’s emended version seems to have been accepted unquestioningly by present-day Georgian numismatists.³ It now seems clear that Barataev’s reading, with the word “bandeh” added to the third line, must be adopted in preference to that of Langlois.

While both Davids issued their own coins during their co-regnancy at Tiflis, those of David Ulugh are not represented in the ANS collection. A copper coin, with the date mostly effaced, and minted in the name of David, “son of Giorgi,” was attributed by Langlois to King David the Builder (1089–1125), son of Giorgi II. What remains of the date of a specimen published by Langlois was read by him as A.H. 5** (A.D. 1106 onwards), which could well fall in David the Builder’s reign. On the other hand, the date can equally well be read from Langlois’s engraving as A.H. *5*, which could only be 65*, i.e., 1252 onwards.⁴ The more recently accepted view is that this type belongs to Ulugh David, son of Giorgi Lasha.⁵

¹ There was a specimen in the Gagarin collection (A. Weyl, *Verzeichniss der reichhaltigen Sammlung des Fürsten G. . .*, Berlin, 1885, No. 2097).

² Barataev, *Num. fakty*, section III, pp. 139–41; Langlois, *Essai*, p. 83.

³ E.g., T^c. Lomouri, “XIII saukunis K’art’uli p’ulis sakit’kht’a gamo,” in the Tiflis Museum *Moambe*, XB, 1940, p. 124.

⁴ V. Langlois, “Supplement à l’essai de classification des suites monétaires de la Géorgie,” in *Rev. Num. Belge*, 1861, pp. 336–37, Pl. XIX, No. 3.

⁵ Pakhomov, *Monety Gruzii*, pp. 80–81; T^c. Lomouri, in Tiflis Museum *Moambe*, XB, 1940, pp. 125–28.

There exists in addition a well authenticated silver series of Ulugh David, minted at Tiflis in A.H. 650, 651, 652 and 654 (1252–56 A.D.). The king is styled David, son of Giorgi, Bagrationi, vassal of the Mongol Great Khan Mangu.¹

To complete this numismatic account of the two Davids, there also exists a silver coin of Byzantine type issued by the two cousins jointly. On the obverse, the kings are shown standing together, while the reverse depicts the Holy Virgin. This coin was probably struck at K'ut'ais in 1261–62, after Ulugh David had rebelled against the Mongol overlords, and taken refuge with David Narin in Western Georgia.²

Ulugh David eventually made his peace with the Mongols, returned into K'art'li and died there in 1269 or 1270. David Narin on the other hand lived on in K'ut'ais, dying at an advanced age in 1293 after a reign of half a century first in Eastern, and then in Western Georgia.

Second Mongol Occupation Series (Great Khan Mangu)

The coins of the two Davids described in the preceding section are all rare and cannot have been struck in any considerable quantity. Much more common are the dirhems struck at Tiflis between A.H. 650 and 659 (1252–61 A.D.) in the name of the Great Khan Mangu (Möngke) alone, without any mention of his Georgian vassals. Mangu ruled from 1251 to 1259.

17. Dirhems Tiflis Various dates.

Obv. Area, within square of dots:

لا اله الا الله

There is no god but

¹ C. M. Fraehn, "De Il-Chanorum seu Chulaguidarum numis," in *Mémoires de l'Académie Impériale des Sciences de Saint-Petersbourg*, 6me. série: Sciences Politiques, Histoire et Philologie, II, 1834, p. 492, Nos. 8, 10; p. 494, No. 14; Langlois, *Essai*, pp. 83–84, Pls. VII, No. 2 and X, No. 2.

² Barataev (*Num. fakty*, section II, Pl. I, No. 1) and Langlois (*Essai*, pp. 92–93, Pl. VII, Nos. 9–10) published this coin, but failed to arrive at a satisfactory attribution. See the article by T'. Abramishvili, "Ori Davit'is moneta," in the Tiflis Museum *Moambe*, XVIB, 1950, pp. 139–43. Illustrations of this coin type accompany D. G. Kapanadze's article, "Tak nazyvaemye Gruzinskie podrazhaniya Trapezundskim aspram," in *Vizantiysky Vremennik*, III, 1950, Pl. I, Nos. 3 and 8.

الله وحده

Allāh alone.

لا شريك له

He has no associate.

Margin, in four segments between square and outer circle of dots, contains date formula.

Rev. Area, within square of dots:

مونگکا قا

Mungka (Möngke) Qā'-

ان لاعظم

ān, the Supreme,

لعادل

The Just.

(*alifs omitted, sic*).

Margin, in segments between square and circle of dots, contains mint formula.

R 21-25 mm. 2.20-2.77 gr.

PLATE IV, 3-7.

Fraehn, *De Il-Chanorum numis*, Nos. 3-6; Lane-Poole, *Coins of the Mongols*, Nos. 3-5. Since this and virtually all later Mongol series have borders of dots, this feature will not be specifically mentioned in the subsequent descriptions.

Many examples of this series have a damghah in the center of either obverse or reverse, or both, thus: 卐

Most specimens are decorated with small six-pointed stars, Solomon's Seals, rosettes, leaves and other ornamental motifs worked into the area, either in conjunction with or instead of the damghah.

The Tiflis dirhems of Mangu in the ANS collection bear the following dates:

A.H. 652. 10th. of Sha'bān

PLATE IV, 3.

653. 15th. (?) of Şafar

PLATE IV, 4.

Rabi' II

Jumādā I

Jumādā II

Rajab

Sha'bān

Ramaḍān

Shawwāl

654. Şafar
Jumādā I
Sha‘bān PLATE IV, 5.
655. Dhū'l-Ḥijjah
656. Sha‘bān
Ramaḍān
Shawwāl
657. Rabī‘ II (plus one specimen of 657 with month effaced).
PLATE IV, 6.
658. Sha‘bān
Dhū'l-Ḥijjah (plus one of 658 with month effaced).
659. Month effaced. PLATE IV, 7.
- 65*. Muḥarram (?)
Sha‘bān (marginal legend in part retrograde)
Dhū'l-Qa‘dah.

Hulagu Il-Khan (1260–65) and King David Ulugh

At the time of Mangu's death in 1259, his brother Hulagu was commanding the Mongol armies in the Near East. Hulagu now became the autonomous ruler of Persia, Mesopotamia and neighbouring territories conquered by the Mongols, founding the Il-Khanid dynasty which ruled there during the succeeding century. His capital was at Marāgha in Azerbaijan. He died on February 8th., 1265 (A.H. 663). The coins struck by Hulagu and his line at Tiflis and other mints in Georgia form an important and numerous series.

In spite of the practically independent status of Hulagu and his line, they continued for the time being to acknowledge the supreme overlordship of the Great Khaqan Khubilay at Daidu. The formula "Qā'ān al-‘Ādil" on the coins of Hulagu and Abagha refers not to the Il-Khans themselves, but to Khubilay.

The dirhems struck by Hulagu at Tiflis make a break with the pattern of the Mangu series. Hulagu is not named on them. They have the date formula in the margin, accompanied in some but not all cases by the mint formula of Tiflis. E. A. Pakhomov conveniently

terms this series "Kaanniki Type I."¹ Specimens are known with the dates A.H. 660, 661 and 662 (A.D. 1261-64).

18. "Kaanniki Type I." (Mint-date formula in margin)

Obv. Within ornamented border:

لا اله الا	There is no god
لا الله وحده لا	But Allāh alone.
شريك له	He has no associate.

Marginal legend with mint-date formula, viz:-

a) A.H. 660	Rabī' II. Mint effaced.	PLATE IV, 8.
b) 661	6th. of Sha'bān. No mint.	PLATE IV, 9.
c) 6** Tiflis.	PLATE IV, 10.
d) ?	Ramaḍān. Tiflis.	PLATE IV, 11.

Rev. Area, within ornamented hexagon:

قان	The Qā'ān
العادل	The just.

AR 20-23 mm. 2.54-2.71 gr.

PLATE IV, 8-11.

Fraehn, *De Il-Chanorum numis*, No. 33; Lane-Poole, *Coins of the Mongols*, No. 47; A. K. Markov, *Inventarny katalog Musul'manskikh monet Imperatorskogo Ermitazha*, St. Petersburg, 1896, pp. 569-70, Nos. 17-20.

Abagha Khan (1265-82) and David Ulugh (to 1270) and Dimitri the Devoted (1271-89)

Abagha's first series of Tiflis dirhems differ from those of his father Hulagu by having the date formula in the area of the obverse instead of the margin. The dating is meticulous, the months being regularly specified. The mint is omitted. This series is referred to by Pakhomov as "Kaanniki Type II."

¹ E. A. Pakhomov, *Klady Azerbaydzhana i drugikh respublik i kraev Kavkaza*, fasc. II, Baku, 1938, p. 34, note.

18A. "Kaanniki Type II." (Date in center)

Obv. Within ornamented border, pious formula as in previous example.

Between first and second lines of pious formula, date.

Rev. Area, within ornamented hexagon:

The Qā'ān
The just.

AR 19-23 mm. 2.41-2.96 gr.

PLATE V, 1-6.

Fraehn, Nos. 34, 36-40, 42-51, 53-58; Lane-Poole, *Coins of the Mongols*, Nos. 43-46; Markov, *Inventarny katalog*, Nos. 37-60.

The examples of this type in the ANS collection bear the following dates:

A.H. 663. Dhū'l-Qa'dah

665. Shawwāl
Dhū'l-Ḥijjah

PLATE V, 1.

666. Jumādā I .
Rajab

667. Muḥarram

668. Šafar
Rajab
Dhū'l-Ḥijjah

PLATE V, 2.

669. Rajab
Sha'bān

670. Šafar
Ramaḍān
Shawwāl
Dhū'l-Qa'dah

PLATE V, 3.

671. Muḥarram
Dhū'l-Qa'dah

672. Šafar
Shawwāl

673. Shawwāl

674. Rabī' II PLATE V, 4.
 Rajab
 Ramaḍān
675. Muḥarram
676. Rajab
 Rabī' I
680. Rabī' I PLATE V, 5.
 Sha'bān (2 specimens, one doubtful).




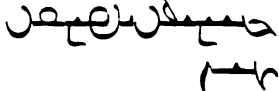
Also two specimens with undeciphered legends in the place usually occupied by the date formula. PLATE V, 6.

The foregoing two series of anonymous "Kaanniki" were the only type of coinage minted for Georgia by the Mongols for almost two decades. The Georgian national series struck in the names of the two Davids as vassals of the Mongols had long since been discontinued. Towards 1280, however, Abagha's conciliatory attitude towards the Georgian Christian population is reflected in the coinage. As is well known, Abagha sought alliance with Western Christendom against the Muslim powers. The Georgian chroniclers speak in favourable terms of his treatment of the Christians in the Il-Khanid dominions.

Several series of "Hulaguid-Christian" dirhems were struck at Tiflis from A.D. 1279 onwards. Of those minted under Abagha, the ANS collection has five specimens. It is important to note that the first type described by Langlois, following Fraehn, as pertaining to Abagha and Dimitri the Devoted, turns out on examination of the illustration to belong to Ghāzān Maḥmūd and Wakhtang III (c. 1302).¹

19. Dirhems [Tiflis] c. A.H. 680/1281 A.D.

Obv. Five-line inscription in Mongol written in the Mongol-Uigur character:

Qaghanu		Of the Khaqan (Khaghan)
nereber		In the name
Abagha-yin		By Abagha
deletkegülük-sen		Struck. (lit.: "Striking of Abagha").

¹ Fraehn, *De Il-Chanorum numis*, No. 60, Pl. IV, No. 6; Langlois, *Essai*, p. 85, No. 37.

Above inscription, ornamental device of interlaced ovals, etc.

Rev. Area, within square:

بسم الاب	In the name of the Father
والابن وروح	And the Son and the Spirit
القدس اله	Holy — God
واحد †	One. †

Margin, in segments between square and outer circle, contains date formula. The specimens in the ANS collections bear the dates A.H. 680 (?); Rabi' II, 68*; 68*; Muḥarram, 6**; Rabi' II, 6**.

R 21–23 mm. 1.97–2.40 gr.

PLATE V, 7–8.

Fraehn, Nos. 62 and 63; Langlois, *Essai*, p. 87, No. 38. E. Drouin expressed the view that Abagha was arrogating to himself the title of Khaqan in the inscriptions of these coins ("Notice sur les monnaies mongoles," in *Journal Asiatique*, May–June, 1896, p. 507). Professor Francis W. Cleaves of Harvard University kindly informs me, however, that this is not so, and that documentary evidence confirms that the early Il-Khans sedulously maintained their nominal allegiance to the Supreme Khaqan of Daidu. On the title of Il-Khan, see further Mostaert and Cleaves, "Trois documents mongols des Archives Secrètes Vaticanes," in *Harvard Journal of Asiatic Studies*, XV, 1952, p. 454. On some of these coins, as Professor Cleaves further points out to me, the ruler's name appears in the form "Abugha".

Aḥmad Tegüder Khan (1282–84) and Dimitri the Devoted


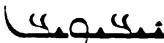

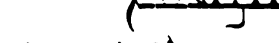

Abagha was succeeded as Il-Khan by his brother Tegüder ("The Perfect"), who assumed the title of Sultān Aḥmad Khan on his official conversion to Islam. Aḥmad's short reign was mainly occupied with wars against his nephew Arghun, who was the son of Abagha and had been designated by that ruler to succeed to the Il-Khanid dominions. King Dimitri of Georgia at first took the side of Aḥmad, who was however defeated by Arghun and put to death in August, 1284.¹

¹ Allen, *History of the Georgian People*, p. 119; Howorth, *History of the Mongols*, III, 300–7.

The ANS collection includes one Hulaguid-Christian dirhem struck at Tiflis under Aḥmad, while Dimitri II was vassal king of Eastern Georgia.

20. Dirhem [Tiflis] A.H. 682 (?) / 1283-4 A.D.

Obv. Five-line inscription in Mongol written in the Mongol-Uigur character:

Qaghanu		Of the Khaqan
nereber		In the name
Amadun		By Aḥmad
deletkegülük-		Struck.
sen		

Above inscription, ornamental device of interlaced ovals, etc.

Rev. Area, within square, containing Christian pious formula in Arabic as under Abagha, but in place of the Cross, a six-pointed star.

Margin, in segments between square and outer circle, contains date formula: A.H. 682 (?).

AR 23 mm. 2.31 gr.

PLATE V, 9.

Fraehn, Nos. 70-71; Langlois, *Essai*, p. 87, No. 39; Drouin, "Notice sur les monnaies mongoles," pp. 517-19.

The substitution of a star for the Christian cross on the reverse of Aḥmad's Hulaguid-Christian dirhems may have some connection with his conversion to Islam and consequent lack of sympathy towards the Christian faith.¹

Arghun Khan (1284-91) and Dimitri the Devoted

Dimitri had abandoned the cause of Aḥmad in time to make his peace with the victorious Arghun. He was a close friend of Arghun's powerful minister Bukay, Dimitri's daughter being married to Bukay's son. In 1289, however, Bukay was disgraced and executed. Arghun threatened to ravage Georgia as a reprisal for Dimitri's alleged complicity in Bukay's intrigues. To save his people, Dimitri voluntarily surrendered to Arghun, who tortured and executed him.

¹ Cf. Howorth, *History of the Mongols*, III, 297.

His devotion earned him the title of "T'avdadebuli," the Self-Sacrificed or Devoted.


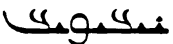
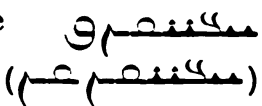

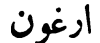
Dimitri was succeeded on the East Georgian throne by Wakh-tang II (1289-92), son of King David Narin of Imeret'i. Of Wakh-tang II no coins are known.

Arghun died, probably poisoned, on March 10, 1291.

The ANS collection contains twenty Hulaguid-Christian dirhems struck for Georgia under Arghun. They resemble previous issues, and bear the Christian cross on the reverse.

21. Dirhems [Tiflis] A.H. 683-86/1284-8 A.D.

Obv. Four-line inscription in Mongol:

Qaghanu		Of the Khaqan
nereber		In the name
Arghunu (in some examples Arghunun)		By Arghun
deletkegilk		Struck.
Fifth line:		Arghūn

Rev. Area, within square, containing Christian pious formula, concluding with Cross and ornamental motif.

Margin, in segments between square and outer circle, contains date formula, crudely inscribed.

R 20-22 mm. 2.19-2.46 gr.

PLATE V, 10-12 and VI, 1-2.

Fraehn, Nos. 77-78; Langlois, *Essai*, pp. 87-88, No. 40.

On most specimens of the above series, the date formula is so roughly engraved that the following table of dates compiled from the examples in the ANS collection must be considered as provisional:

A.H. 683.	PLATE V, 10.
684.	
685.	PLATE V, 11.

686. Rabi' I
Rabi' II

PLATE V, 12.

(and others of 686 with month effaced).

Langlois further lists the year 687/1288–9 A.D. It is noteworthy that the series comes to an end in the following year, when the Christian king Dimitri was executed by Arghun.

Variations occur in the spelling of Arghun's name in the Mongol inscription. The correct form is "Arghunu," genitive of Arghun. Many examples have the grammatically incorrect "Arghunun." The final element "-sen" of the participle "deletkegülükxen" has been suppressed to make room for the addition of "Arghūn" in Arabic in the fifth line. The remaining portion often reads "deletkegülk-" instead of "deletkegülük-."

Gaikhātu Khan, Arinchin Turji (1291–95) and David VIII

Wakhtang II of Georgia died in 1292 and was succeeded by David VIII (or, following another system of computation, David VI), son of Dimitri the Devoted.

In the previous year, Arghun had been succeeded as Il-Khan by his brother Gaikhātu, whose title Arinchin Turji or Precious Jewel derives from the Tibetan "rin-chen rdo-rje" and was bestowed on him by the Lamas. Gaikhātu was murdered in 1295 by partisans of his cousin Baidu, who succumbed a few months later to Ghāzān.

The ANS collection has four Hulaguid-Christian dirhems struck at Tiflis under Gaikhātu. This series was formerly attributed to Arghun, because the die-engraver has neglected to change the name of the ruler in the Mongol inscription.¹ Gaikhātu's honorific title written in Arabic characters, "ArInchIn Tūrjī," replaces the name of Arghun beneath. This leaves no doubt as to the attribution of this series, since the historians of the time inform us that the title was bestowed personally upon Gaikhātu on his accession.²

¹ Drouin, "Notice sur les monnaies mongoles," pp. 522–25.

² Howarth, *History of the Mongols*, III, 357; Barthold, article "Gaikhātū" in the *Encyclopaedia of Islām*.

22. Dirhems [Tiflis] [c. 1291–95 A.D.]

Obv. Four-line inscription in Mongol as in preceding series, retaining the name of Arghun.

Fifth line:

ارینچین تورجی

Arinchin Tūrjī.

Rev. Area, within square, containing Christian pious formula, concluding with Cross and/or star or other ornamental motif.

Margin, in segments between square and outer circle, contains date formula, crudely inscribed (effaced or illegible in all four specimens).

Æ 20–21 mm. 2.19–2.33 gr.

PLATE VI, 3–4.

This type is described by Fraehn, Nos. 80 and 89, but included under Arghun.

Ghāzān Maḥmūd Khan (1295–1304), David VIII and Wakhtang III

Under Ghāzān, Mongol oppression and a revival of Muslim fanaticism drove David VIII in 1297 to rebel against his overlord and take refuge in the fastnesses of the Caucasus. From 1299 to 1301, the Mongols maintained David's brother Giorgi, later to rule as Giorgi the Brilliant, as their puppet ruler at Tiflis. They later replaced him by another brother, who ruled as Wakhtang III (1301–1308).¹

In general, however, Ghāzān was an energetic and enlightened ruler, under whom the Il-Khanid dominions reached a high point of prosperity. He reformed and standardized the coinage.² The Tiflis mint struck silver of both Hulaguid-Christian and standard Muslim types. An important event in Georgian economic history was the establishment of a mint at Akhaltsikhe, the capital of the province of Samtskhe-Saatabago in south-west Georgia.

Ghāzān died near Qazvin on May 17, 1304. His coins are frequently mentioned in Georgian charters under the name of Qazanuri, a term which may also have been loosely applied to other Il-Khanid silver coins circulating in Georgia.

¹ Howorth, *History of the Mongols*, III, 421–26; Allen, *History of the Georgian People*, p. 120.



² Howorth, *History of the Mongols*, III, 524–26; Rashid al-Dīn, "Povestvovanie o Gazan-Khane," in *Sbornik Letopisey*, trans. A. K. Arends, vol. III, Moscow-Leningrad, 1946.

⁴ Lang

23. Dirhems [Tiflis] A.H. 696/1296–7 A.D.

Obv.	پادشاه اعظم	The most mighty king
	سلطان محمود	Sultān Maḥmūd
	غازان خان	Ghāzān Khān,
	خلد الله ملكه	May God prosper his reign.

Rev. Area, within square of dots:

بسم الاب	In the name of the Father
والابن وروح	And the Son and the Spirit
القدس اله	Holy — God
واحد  	One. MP'D (for Mep'e Davit', King David) †

Margin, in segments between square and outer circle, contains date formula. In one case this can be read conjecturally as A.H. 696.

Æ 20–21 mm. 1.84–2.33 gr.

PLATE VI, 5–6.

Barataev, *Num. fakty*, section III, pp. 172–73; Bartholomaei, *Lettres Numismatiques*, p. 112, Pl. II, No. 7; Langlois, *Essai*, p. 89, No. 41.

The royal monogram in the reverse area of David VIII's coins represents an evolution from the cross and ornament found on earlier series. The fact that the cross now occurs in the centre of the initial letter "D" of the king's name serves to stress his role as defender of the Christian faith.

No coins are known pertaining to the brief first reign of Giorgi V (1299–1301).

With Wakhtang III (c. 1301–1308) we come to the end of the Hulaguid-Christian issues. His reign is represented in the ANS collection by four dirhems, easily distinguishable from earlier types by the lay-out of the reverse.

24. Dirhems [Tiflis] [c. 1301-4 A.D.]

Obv. Qaghanu	قaghanu	Of the Khaqan
nereber	نereber	In the name
Ghazanu	Ghazanu	By Ghazan
deletkegülük- sen	دلتكغولوك-سن	Struck.

Rev. Area, within linear square:

In centre, a Maltese Cross within linear circle (in one example, a small star appears between each arm of the Cross).

Inscription running round Cross:

بسم الاب والابن وروح

In the name of the Father and the Son and the Spirit.

At the end of the inscription a monogram, thus: \mathfrak{E} made up of the Georgian ecclesiastical majuscules $\mathfrak{V}\mathfrak{N}\mathfrak{G}$, VNG, together with the letters $\mathfrak{M}\mathfrak{P}$ = MP', the whole representing Vakhtang Mep'e, King Wakhtang.

Margin, in segments between square and outer circle, contains degradation of date formula.

R 21-22 mm. 2.26-2.36 gr.

PLATE VI, 7-8.

Fraehn, No. 86; Langlois, *Essai*, p. 90, No. 42.

Under Ghāzān, coins with Muslim legends were again minted at Tiflis, after an interval since the reign of Abagha. Note the new formula adopted for the Mongol inscriptions, indicating that Ghāzān no longer set store by acknowledging the suzerainty of the Supreme Khaqan of Daidu. The phrase "tngri-yin küchündür," in Sir Gerard Clauson's view, was taken over by Ghazan from the paizas issued by the Supreme Mongol Khaqan, on which the phrase regularly occurs in the preamble, sometimes in the ḥP'ags-pa and sometimes in the Uigur script.¹

¹ Cf. the Uigur-Mongol paiza illustrated in Yule and Cordier, *The Book of Ser Marco Polo*, 3rd. ed., London, 1903, vol. I, p. 355.

25. Dirhems Tiflis A.H. 701/1301-2 A.D.

Obv. Area, within ornamented pentagon:

الله	
لا اله الا	There is no god but Allāh
ضرب تفلّيس	Struck at Tiflis ¹
محمد	Muḥammad
رسول الله	is the Messenger of Allāh.

Vertically, at sides:

صلى الله عليه	God bless him. (The word الله at the top of the area is read twice).
---------------	--

In segments, between pentagon and linear border, date formula, decipherable in one case as **I, i.e., A.H. 701.

Rev. Five-line inscription in Mongol:

Tngri-yin	ᠲᠩᠭᠢᠢᠨ	Of Heaven
küchündür	ᠬᠦᠴᠢᠨᠳᠦᠷ	By the Power
Ghazanu	ᠭᠠᠵᠠᠨᠠ	By Ghazan
deletkegülük- sen	ᠳᠡᠯᠡᠲᠡᠭᠦᠯᠦ᠋ᠭᠦᠰᠡᠨ	Struck

Between third and fourth lines:

غازان محمود	Ghāzān Maḥmūd
-------------	---------------

¹ This mint formula, which literally signifies "Striking of Tiflis," will henceforth be rendered more conveniently, if less grammatically, as "Struck at Tiflis."

To left, vertically:

𐰢
𐰣
𐰤

Æ 20-21 mm. 2.01-2.14 gr.

PLATE VI, 9-10.

Fraehn, No. 103; Lane-Poole, *Coins of the Mongols*, No. 110.

Various attempts have been made to read the three mysterious characters on the coins of Ghāzān Maḥmūd. They are obviously the special mark or sign which Rashīd al-Dīn records that Ghāzān had included in the design of his coins to prevent counterfeiting.¹ Terrien de la Couperie tried to read them as Ghāzān's name in the ḥP'ags-pa (Passepa) script,² but this was contested by Drouin, who thought however that "these unknown signs conceal some religious epithet after the style of Arinchin Turji."³ This is not very convincing, since if Ghāzān had had some such honorific title bestowed on him by the Lamas of Tibet, he would have had no valid object in wrapping it up in a cryptogram that nobody could read.

Sir Gerard Clauson has examined these coins, and has come to the conclusion that the signs are intended for the word *Qa'an* in ḥP'ags-pa, but were designed by someone with a highly imperfect knowledge of the ḥP'ags-pa script. The following observations are quoted by Sir Gerard Clauson's kind permission from notes on the subject addressed to the present writer:

"As regards Ghazan's *nīshān*, I have no doubt that it is in P'ags-pa, written by someone who had got the alphabet, but had never seen it written continuously. The main characteristics of the alphabet are that it is written vertically, and that the letters of each word are joined together by running the right vertical downwards.

"Equally I have no doubt that word is meant to be *Qa'an*. You will see at the top of the right column on the front of the *paiza* [reproduced in Yule and Cordier's *Marco Polo*, 1903 ed., I, plate facing

¹ Rashīd al-Dīn, trans. Arends, vol. III, 1946, p. 271: "[Ghāzān] first established according to his judgement the pattern of the coinage, set on it a mark (*nīshān*) such that nobody would succeed in imitating it, and ordered that throughout his dominions, gold and silver should be struck according to this pattern..."

See also Howorth, *History of the Mongols*, III, 525.

² Lane-Poole, *Coins of the Mongols*, p. lii.

³ E. Drouin, "Notice sur les monnaies mongoles," p. 532.

page 352] how the professional wrote it. The alternative—"Ga-za-n"—is so much less like the coins that it seems to me much less probable. I think that the resemblance of the first letter on one coin to the P'ags-pa syllabary *ma* is purely fortuitous.

"If I am right in thinking that the appearance of these signs and the adoption of the new formula *mgri-yin küchündür*¹ coincide, then I think the case is a cast iron one. Ghazan seems to have come to the throne in A.D. 1295; the P'ags-pa alphabet was invented in China in A.D. 1269, so was still new and wonderful. It may well have reached Ghazan on a *paiza* of the type illustrated in Yule's *The Book of Marco Polo* [1903 ed., I, plate facing page 352], which bears both the formula (the P'ags-pa rendering is "dénriyin k'uč'undur") and the word *qaghan* (there spelt *gha'an*) in P'ags-pa. As the formula was, so to speak, the Mongol *bismillah*, it no doubt appeared on all state papers, and Ghazan may have got it and the *nīshān* that way, but a *paiza* is likeliest, as it was a sort of metallic diplomatic passport and no doubt the ambassadors from Peking all carried them."

The preceding items of Ghāzān's coinage from the Tiflis mint are no novelties, but it has recently been discovered that another mint existed under Ghāzān in Georgian territory, namely at Akhaltsikhe in the province of Samtskhe. Credit for this important addition to Transcaucasian numismatic history belongs to specialists at the University and State Museum of Georgia at Tiflis. As a result of details published in the Museum's bulletin, it has been possible to attribute a coin in the ANS collection to this Akhaltsikhe mint.

26. Dirhem Akhaltsikhe Date effaced

Obv. As preceding example from the Tiflis mint, but the third line reads:

ضرب اخلسيخ

Struck at Akhalsikh.

(or possibly: اخلسينخ)

Rev. As preceding example.

Æ 22 mm. 1.96 gr.

PLATE VI, II.

T'. Lomouri, "Akhaltsikhis zarap'khana," in *Sak'art'velos sakhelmdsip'o muzeumis moambe*, XIIB, 1944, p. 214.

¹ On this formula see Mostaert and Cleaves in *Harvard Journal of Asiatic Studies*, XV, 1952, pp. 428 and 486; also Cleaves, in the same journal, XVI 1953, p. 40.

The first mention of Ghāzān's Akhaltsikhe mint is found in Bartholomaei's third letter to Soret, the author of which, however, found himself unable to identify the locality in question, which he read tentatively as "Ikhshin."¹ More recently, an Akhaltsikhe dirhem came to light at Erivan in 1939. Pakhomov read the mint as اخلس, but there can be no reasonable doubt that this represents the name of Akhaltsikhe.² Nearly a score more specimens were then discovered in Soviet Georgia, on one of which, instead of اخلسخ, the mint reads اخالسخ. This enabled T'amar Lomouri of the Tiflis Museum coin room, in consultation with Professor G. Tseret'eli, to establish beyond doubt that the mint in question is indeed Akhaltsikhe.

The existence of this mint under the Il-Khans is significant as reflecting political developments of the period. The Georgian chronicle records that in 1268 the Atabag of Samtskhe, Sargis Jaqeli, profited by the weakness of King David Ulugh of Georgia to set himself up under Mongol protection as independent dynast at Akhaltsikhe. He was succeeded by his son Bek'a Jaqeli (1285-1306), whose rule thus coincided with the reign of Ghāzān Maḥmūd, in whose name these coins were struck. In the time of Sargis II Jaqeli (1306-34), King Giorgi the Brilliant re-united the province of Samtskhe to the Georgian crown, the dignity of Atabag remaining in the Jaqeli family. After the Ottoman invasion of 1578, the Jaqelis became hereditary Pashas under the suzerainty of the Turkish Sultan.³ Many works of geographical description and travel contain material on Samtskhe and the city of Akhaltsikhe.⁴

¹ "Troisième lettre de M. le Général de Bartholomaei à M. F. Soret, sur des monnaies koufiques inédites, trouvées en Géorgie," in *Rev. Num. Belge*, 1862, p. 68, Pl. III, No. 10.

² E. A. Pakhomov, *Monetnye klady Azerbaydzhana i drugikh respublik, kraev, i oblastey Kavkaza*, fasc. IV, Baku, 1949, No. 1158.

³ M.-F. Brosset, *Histoire de la Géorgie*, I, St. Petersburg, 1849, pp. 543-86; Prince Wakhusht, "Histoire du Samtzhé-Saatabago," in *Histoire de la Géorgie*, II, 1. 1856, pp. 205-6.

⁴ Prince Wakhusht, *Description géographique de la Géorgie*, trans. and ed. Brosset, St. Petersburg, 1842, pp. 85-87; Dubois de Montpéroux, *Voyage autour du Caucase*, II; Platon Ioseliani, *Goroda, sushchestvovavshie i sushchestvuyushchie v Gruzii*, Tiflis, 1850, pp. 28-30; *Materialy po arkheologii Kavkaza*, IV; V. Ivanov, "Gorod Akhaltsikhe," in *Sbornik materialov dlya opisaniya mestnostey i plemen Kavkaza*, VII.

The Akhaltsikhe mint continued to function under the Il-Khan Uljaitu (Öljäitü), who reigned from 1304 to 1316, and was a contemporary of Sargis II Jaqeli. Bartholomaei lists a dirhem of Uljaitu of uncertain date minted at Ikhshin, i.e., Akhaltsikhe.¹ In the catalogue of the von Karabaczek collection, there also occurs a dirhem of Uljaitu struck at Ikhshin/Akhaltsikhe, this time dated A.H. 716/1316–7 A.D.²

So far this is all that is known about this interesting mint, though it may be conjectured that it was one of the centres for the fabrication of imitations of the Trebizond aspers, which became standard currency in western Georgia during the fourteenth and fifteenth centuries, after the decay of the Il-Khanid empire. D. Kapanadze has recently discovered a rather dubious coin on which he reads the initials of the Atabag Qwarqware, who ruled at Akhaltsikhe from 1451 to 1498.³

*Uljaitu (Öljäitü) Khan (1304–16) and Giorgi VI,
The Little (c. 1310–15)*

Sultān Uljaitu ("The Fortunate"), known also as Muḥammad Khudābandeh, succeeded his brother Ghāzān and continued his statesmanlike policies. At first a Sunnī, he later adopted the Shī'a persuasion. He transferred the capital of the empire from Tabriz to Sultāniya.

Giorgi VI of Georgia, known as Mtsire, "The Little," was an infant son of King David VIII. He reigned nominally in Tiflis under the tutelage of his uncle, the former King Giorgi V, later to reign once more as Giorgi the Brilliant.

The coins struck in Georgia by Uljaitu are purely Muslim in legend and style, bearing no Christian symbol to distinguish them from products of other Il-Khanid mints.

¹ *Rev. Num. Belge*, 1862, pp. 68–69.

² Schulman, Amsterdam, November 18th., 1907, p. 67, No. 1133.

³ D. Kapanadze, "Zogiert'i gaurkveveli k'art'uli p'ulis dat'arighebisat'vis," in *Sak'art'velos sakhelmdsip'o muzeumis moambe*, XI B, 1941, p. 150.

27. Dirhem Tiflis A.H. 705/1305-6 A.D.

Obv. Area, within ornamented cinquefoil:

الله

There is no god but Allāh

لا اله الا

ضرب تفليس

Struck at Tiflis

محمد

Muḥammad

رسول الله

is the Messenger of Allāh.

Vertically, at sides:

God bless him.

صلى الله عليه

(The word الله at the top of the area
is read twice).

Margin, in segments between cinquefoil and circumscribed circle, contains names of Four Orthodox Caliphs.

Rev. Area, within double linear square:

السلطان الاعظم

The most mighty Sulṭān

غياث الدنيا والدين

Ghiyāth al-Dunyā wa'l-Dīn

خدا بنده محمد

Khudābandeh Muḥammad,

خلد الله ملكه

May God perpetuate his reign.

Margin, in segments between square and circumscribed circle, contains date formula: A.H. 705.

R 22 mm. 2.15 gr.

PLATE VI, 12.

28. Dirhems Tiflis A.H. 712/1312-3 A.D.

Obv. Area, within circle:

لا اله الا الله

There is no god but Allāh

محمد	Muḥammad
رسول الله	is the Messenger of Allāh,
على ولي الله	‘Alī is the Viceroy of Allāh.

Around:

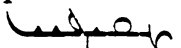
بسم الله الكريم In the name of Allāh the All-Bountiful.

Marginal legend contains benediction on the Twelve Imams.

Rev. Area, within quatrefoil:

ضرب في	Struck in
ايام دولة المولى	the days of the rule of the Lord
السلطان الاعظم مالك رقاب	Sultān most mighty, having sway over the necks
الامم اولجايتو سلطان غياث	of nations, Ūljāitū Sultān Ghiyāth
الدنيا والدين خدابنده محمد	al-Dunyā wa'l-Dīn Khudābandeh Muḥammad,
خلد الله	May God perpetuate
ملكه	his reign.

The margin, in segments between quatrefoil and outer circle, is disposed differently in the two specimens in the ANS collection:

a) Top right: In Mongol:  Öljeitü Sultan.

Top left: Qur'ān, XXX, 3.

Bottom right: Mint formula: Tiflis.

Bottom left: Date formula (effaced).

b) Top right: Qur'ān, XXX, 3.

Top left: Date formula: A.H. 712.

Bottom right: Mongol title.

Bottom left: Mint formula: Tiflis.

R 19-21 mm. 2.06-2.11 gr.

PLATE VII, 1-2.

Similar to Fraehn, No. 113 and Lane-Poole, *Coins of the Mongols*, No. 133.

29. Double Dirhem Tiflis A.H. 715/1315-6 A.D.

Obv. Area, within double sixfoil: Shī'a pious formula.

Marginal legend contains benediction on the Twelve Imams.

Rev. Area, within double sevenfoil, contains enumeration of Uljaitū's titles, similar to preceding example.

Margin, in segments between sevenfoil and outer circle, contains mint-date formula: Tiflis, A.H. 715.

℞ 23 mm. 3.98 gr. (ringed).

PLATE VII, 3.

Similar to Lane-Poole, *Coins of the Mongols*, No. 147.

In addition to the above series, the ANS collection contains a barbarous imitation of a double dirhem of this reign.

30. Double Dirhem (barbarous work) Tiflis A.H. 708 (?) or 710 (?).

Obv. Area, within ornamented hexagon, contains Sunnī pious formula.

In segments between hexagon and linear circle, crudely written legend of which only two sections remain, possibly representing the words:

النبي بنده

... the prophet, slave...

Rev. Area, within ornamented hexagon, barbarously inscribed:

ضرب في ايام

Struck in the days

دولة السلطان الاعظم

of the rule of the Sulṭān most mighty

اولجايتو خدا بنده

Ūljāitū Khudābandeh

محمد خلد الله ملكه

Muḥammad, May God perpetuate his reign.

Margin, in segments between hexagon and outer circle:

تفليس / — / ثمان (or عشر) و / سبعة

700 / and (or 10?) 8 / — / Tiflis.

℞ 24 mm. 3.18 gr.

PLATE VII, 4.

*Abū Saʿīd Bahādur Khan (1316–35) and Giorgi V, The Brilliant
(c. 1315–46)*

Abū Saʿīd, son of Uljaitu, was the last ruler of the undivided Il-Khanid empire. His reign, the swan-song of the Mongols of Persia, was one of courtly splendour and literary culture, combined with growing political unrest. He reverted to the Sunnī persuasion.

In Georgia, the infant Giorgi the Little having died or otherwise disappeared from the scene, the throne was occupied for the second time by Giorgi V, son of Dimitri the Devoted. Giorgi V is called by the annalists “Brdsqinvale,” The Brilliant. At first, he enjoyed high favour at the Persian court and was confirmed in possession of all the Georgian lands. The chronicles give grandiloquent but vague accounts of his military prowess. He is stated to have expelled the Mongols from Georgia and set up his headquarters at Tiflis, as well as re-uniting all western and south-western Georgia to the Crown.¹

The numismatic evidence suggests however that Giorgi’s successes were of a more modest nature. An uninterrupted series of standard Il-Khanid silver coins were struck at Tiflis until the 1350’s. It seems most likely that the Annals’ accounts of Giorgi’s battles with the Mongols represent a somewhat garbled version of the events attending the revolt and defeat of Giorgi’s protector, the powerful general Chūpān, who was executed in 1327. Chūpān’s son Maḥmūd, the Il-Khanid governor of Georgia, was now assassinated by his own troops.² Having been associated with the losing side, Giorgi’s position in Tiflis would have been perilous. The account of his exploits in western Georgia perhaps reflects the fact that like his predecessors Queen Rusudan and David Narin, Giorgi found it advisable to operate for a time outside the Mongol sphere of influence. Or again it may be that the Muslims continued, as in the days of the Tiflis Emirs, to hold the city as an enclave within the kingdom of Kʿartʿli.³

¹ Howorth, *History of the Mongols*, III, 587; Brosset, *Histoire de la Géorgie*, I, 640–48; Allen, *History of the Georgian People*, pp. 121–22.

² Ḥāfiẓ-i Abrū, *Chronique des Rois Mongols en Iran, texte persan édité et traduit par K. Bayani*, II, Paris, 1936, p. 107.

³ Cf. Bartholomaei, *Lettres numismatiques*, pp. 108–9: “Il devient évident que pendant toute la première moitié du XIV^{me} siècle, le joug mongol avait pesé de tout son poids sur la Transcaucasie entière, et que le royaume de Géorgie était devenu de fait une province de l’empire des Houlaguides; que les rois

No coins struck in the name of Giorgi the Brilliant are known to us, with the somewhat dubious exception of a few specimens of crude fabric from a 14th century hoard published by D. Kapanadze. These are apparently imitations of later Il-Khanid patterns, though Kapanadze's reproductions are not good enough to give a clear impression. A feature of their design is a motif resembling a human eye. On one of them Kapanadze made out the legend "Mep'et'a Mep'e Giorgi" in Georgian ecclesiastical majuscules, and concluded that this is the famous "Giorgauli" coin referred to in a number of medieval legal documents.¹ Experience of the many curious items which occur in hoards of this period suggests, however, the need for caution. It is proposed to return to this subject in the section on Georgian imitations of the aspers of Trebizond, which were the standard currency of western Georgia during this period.

The ANS collection contains sixteen silver coins of Abū Sa'īd minted at Tiflis after standard patterns.

31. Double Dirhem Tiflis A.H. 717/1317-8 A.D.

Obv. Area, within ornamented octagon, contains Sunnī pious formula, interspersed with ornaments.

Margin, in spaces between octagon and outer circle, contains Qur'ān, LXVII, 1.

Rev. Area, within ornamented hexagon:

ضرب في	Struck in
دولة المولى السلطان	The empire of the Lord Sulṭān
الاعظم ابو سعيد	Most mighty, Abū Sa'īd,
خلد الله ملكه	May God perpetuate his reign.

de Géorgie, en commençant par Giorgi-le-Brillant lui-même, n'étaient que des vassaux des kaāns...." This point is discussed further in Bartholomaei à Soret, III, *Rév. Num. Belge*, 1862, pp. 95-97.

¹ D. Kapanadze, "Zogiert'i gaurkveveli k'art'uli p'ulis dat'arighebisat'vis," in the Tiflis Museum *Moambe*, XIB, 1941, pp. 133-44.

Beneath, arabesque.

Margin contains mint-date formula: Tiflis, A.H. 717.

℞ 26 mm. 3.74 gr. (holed)

PLATE VII, 5.

Similar to Lane-Poole, *Coins of the Mongols*, No. 175.

32. Dirhem Tiflis A.H. 719/1319-20 A.D.

Obv. Area, within ornamental frame portraying a *mihrāb*, contains Sunnī pious formula. Beneath, names of the Four Orthodox Caliphs. The *mihrāb* frame itself and the legend between the frame and surrounding linear border form Qur'ān, II, 131.¹

Rev. Area, within lobed square:

ضرب	Struck
في أيام دولة السلطان	in the days of the rule of the Sulṭān
الاعظم أبو سعيد	Most mighty, Abū Sa'īd,
خلد الله ملكه	May God perpetuate his reign.

Around, in lobes of square:

نعم النصر من الله	Excellent is the victory from God.
-------------------	------------------------------------

Margin, in spaces between square and outer circle, contains mint-date formula: Tiflis, A.H. 719.

℞ 20 mm. 1.70 gr.

PLATE VII, 6.

Similar to Fraehn, No. 140; Lane-Poole, *Coins of the Mongols*, Nos. 176-96.

33. Double Dirhems Tiflis A.H. 719/1319-20.

Three specimens in ANS collection.

Design as previous example.

℞ 24-26 mm. 3.12-3.38 gr.

PLATE VII, 7-8.

¹ On this design and its symbolism, see George C. Miles, "Epitaphs from an Isfahan graveyard," in *Ars Islamica*, 1939, p. 156.

34. Double Dirhems Tiflis A.H. 722 and 723/1322-3 A.D.

Obv. Area, within circle, contains Sunnī pious formula, with the names of the Four Orthodox Caliphs inscribed around. Between first and second, and second and third lines of pious formula:

ضرب Struck at

تفليس Tiflis.

Rev. Area, within pentagon:

في امه (sic)

In the days

ضرب

Struck

يام دولة السلطان الاعظم

Of the rule of the Sultān most mighty,

ابو سعيد بهادر خان

Abū Saʿīd Bahādur Khan,

خلد الله ملكه

May God perpetuate his reign.

Margin, in segments between pentagon and outer circle, contains date formula: A.H. 722 and 723.

ⲁ 22 mm. 2.44-3.37 gr.

PLATE VII, 9.

Similar to Lane-Poole, *Coins of the Mongols*, Nos. 197-209.

35. Dirhem Tiflis A.H. 722.

Similar to preceding example.

ⲁ 19 mm. 1.34 gr. (holed).

36. Double Dirhems Tiflis A.H. 724 and 725/1323-5 A.D.

Obv. Area, within double square, contains Sunnī pious formula.

Margin, in segments between square and outer circle, contains names of the Four Orthodox Caliphs.

Rev. Area, within double circle:

ضرب

Struck

السلطان ابو سعيد

Sultān Abū Saʿīd

بہادر خان خلد ملکہ

Bahādur Khan, May his reign be
perpetuated,

تفلیس

Tiflis.

Margin, between circle and outer circle, contains date formula: A.H. 724
and 725.

℞ 23 mm. 3.26–3.37 gr.

PLATE VIII, 1.

Similar to Lane-Poole, *Coins of the Mongols*, Nos. 210–16.

37. Dirhem Tiflis A.H. 724

Similar to preceding example.

℞ 17 mm. 1.93 gr.

PLATE VIII, 2.

38. Double Dirhems Tiflis A.H. 729/1328–9 A.D.

Obv. Area, within ornamented octagon, contains Sunnī pious formula,
surrounded by the names of the Four Orthodox Caliphs. Linear circle
border, with loops.

Rev. Area, within ornamented and looped octagon:

السلطان الاعظم

Sulṭān most mighty

ابو سعید بہادر خان

Abū Saʿīd Bahādur Khan

خلد الله ملکہ

May God perpetuate his reign.

Margin, between octagon and outer circle, contains mint-date formula:
Tiflis, A.H. 729.

℞ 23–24 mm. 3.14–3.18 gr.

PLATE VIII, 3.

39. Double Dirhems Tiflis Year 33 al-Khānīyeh, i.e. 1334–35 A.D.
Year 3* (33 or 34) al-Khānīyeh.

Obv. Sunnī pious formula in Cufic characters arranged to form a square,
and embodying the phrase:

صلى الله عليه

God bless him.

Round the Cufic inscription, in ordinary Naskhi characters, are in-
scribed the names of the Four Orthodox Caliphs.

Rev.

السلطان العالم العادل

The Sultān wise and just

ضرب

Struck

وہم بیدار

Busayid

تفليس

At Tiflis

بہادر خان خلد ملکہ

Bahādur Khan, May his reign be
perpetuated.

Round the inscription, date formula: In one specimen 33, in the other 3*,
of the Il-Khanid era.

⌘ 19–20 mm. 2.77–2.85 gr.

PLATE VIII, 4–5.

Similar to Lane-Poole, *Coins of the Mongols*, Nos. 173, 238–51.

40. Dirhem Tiflis Year 33 al-Khaniyeh, i.e. 1334–35 A.D.

Similar to preceding.

⌘ 15 mm. 1.38 gr.

PLATE VIII, 6.

An attempt must be made here to clarify the concordance of the Khanid and Christian eras, which has been a source of some difficulty in dating these coins of the last years of Abū Sa'īd, the only ruler to employ the Khanian era on his coins. Fraehn and Lane-Poole equate the 33rd year of this Khanian era, invented by Ghāzān Maḥmūd, with 1332–33 A.D.¹ This computation seems untenable, for the authorities agree, with one exception, that Ghāzān based his era on the solar cycle and introduced it on the 12th of Rajab, A.H. 701, or March 13th, 1302.² Now if the first year of the Khanian era ran from March, 1302 to March, 1303, the 33rd year must surely have begun in March,

¹ Fraehn, *De Il-Chanorum numis*, p. 528; Lane-Poole, *Coins of the Mongols*, p. 63.

² See W. Hinz, in *ZDMG*, 1951, p. 250; also Hammer-Purgstall, *Geschichte der Ilchane*, II, Darmstadt, 1843, pp. 175–76, 357–59; Howorth, *History of the Mongols*, III, pp. 532–33; E. G. Browne, *Literary History of Persia*, III, Cambridge, 1928, p. 45; F. K. Ginzel, *Handbuch der Mathematischen und Technischen Chronologie*, I, Leipzig, 1906, pp. 304–5. Waṣṣāf, the continuator of Rashīd al-Dīn, dissents however, giving the 1st of Rajab, A.H. 700 as the commencing date.

5 Lang

1334 and ended in March, 1335 (A.H. 734-35). This is borne out by modern Persian almanacs, which give, for example, Khānī 634 as the equivalent of A.D. 1935.¹

To turn to the numismatic evidence, we find further support for this system of calculation in some coins of Abū Saʿīd minted at Baghdad, al-Ḥillah and Wāsiṭ, and first published by Codrington, bearing dates in both the Khanian and Muslim eras. In three examples, the date is inscribed as both year 34 al-Khānīyeh and 735 A.H. (September, 1334 to August, 1335).²

Zambaur lists some coins of Abū Saʿīd dated 35 and even 36 of the Khanian era.³ These, if our calculations are correct, would date from the years 1336-38 A.D. and represent posthumous issues. Abū Saʿīd died in November, 1335.

It is worth noting that the era is styled الخانية, "al-Khānīyeh," and not ايلخانية, "Ilkhānīyeh," as sometimes given.

The ANS collection also contains a double dirhem of unusual type struck at Tiflis under Abū Saʿīd. It is of the square-cufic pattern, but without the Il-Khan's name in Mongol. Nor is any space allotted for a date-formula. So far as can be discovered, this is a unique specimen.

41. Double Dirhem Tiflis N.D.

Obv. Sunnī pious formula in Cufic characters, surrounded by the names of the Four Orthodox Caliphs.

Linear circle border, outer border of dots.

Rev.

ضرب

Struck

السلطان الاعظم

The Sultān most mighty,

¹ S. H. Taqizadeh, "Various eras and calendars used in the countries of Islam," part 2, in *Bulletin of the School of Oriental and African Studies*, X, London, 1939, pp. 118-20. The correspondence 137 Khānī = A. H. 842/1438-39 A.D. is given in a document of the Timurid Shah-Rukh (W. Hinz, in *Der Islam*, 1949, p. 118).

² O. Codrington, *Some rare and unedited Arabic and Persian coins*, Hertford, 1889, p. 4. Two examples with this double date-formula, from Baghdad and Wāsiṭ, are also in the ANS collection.

³ E. von Zambaur, "Nouvelles contributions à la numismatique orientale," in *Numismatische Zeitschrift*, 1914, p. 184.

أبو سعيد بهادر خان

Abū Saʿīd Bahādur Khan

خلد الله ملكه

May God perpetuate his reign

تفليس

Tiflis.

Double linear circle, outer border of dots.

R 22 mm. 2.71 gr.

PLATE VIII, 7.

The Last Il-Khans (1335–1357)
and Giorgi V and David IX (1346–60)

After the death of Abū Saʿīd, “the throne of Persia became the toadstool on which the puppet sovereigns set up by rival ameers seated themselves, only to find it crumbling beneath them.”¹ The Georgian chronicles pass over this troubled era in virtual silence. It is noteworthy that in spite of the prevailing chaos, the Il-Khanid mint at Tiflis continued to function regularly, as well as a new one at Qarā-Aghāch in Kakhetʿi, on Georgia’s south-eastern border.

Abū Saʿīd’s immediate successor was Arpā Khan, who reigned for only a few months.

42. Double Dirhem Tiflis A.H. 736/1335–6 A.D.

Obv. Sunnī pious formula in Cufic characters, surrounded by the names of the Four Orthodox Caliphs, the whole design being virtually identical with the coins of Abū Saʿīd’s last period.

Rev. السلطان الاعظم

The Sulṭān most mighty

اربا خان خلد الله

Arpā Khan; may God perpetuate

ملكه وايد دولته

his reign and reinforce his dominion.

¹ Lane-Poole, *Coins of the Mongols*, p. xx. The best account of the period is found in the *Taʾrikh-i Shaiḥh Uwais*, trans. and edit. J. B. van Loon (The Hague, 1954), and prefaced by an excellent historical summary.

Surrounded by mint-date formula: Tiflis, A.H. 736.

Æ 21 mm. 2.78 gr.

PLATE VIII, 8.

Fraehn, No. 207; Pakhomov, *Monetnye Klady*, fasc. IV, Baku, 1949, p. 50, No. 1157.

The next of these ephemeral rulers represented in the Tiflis series is Muḥammad Khan, who reigned under the aegis of Shaykh Ḥasan Buzurg, the Jalā'ir chieftain. He was little more than a figurehead, and was killed in 1338, when the Chūpānī, Ḥasan Kūchuk, conquered Azerbaijan and Georgia.¹

43. Double Dirhem Tiflis A.H. 738/1337-8 A.D.

Obv. Within curved border, Sunnī pious formula, surrounded by the names of the Four Orthodox Caliphs.

Rev. Within curved and looped border:

السلطان العالم

The Sultān wise

محمد خلد الله

Muḥammad; may God perpetuate

ملكه ودولته

his reign and dominion.

Around, mint-date formula: Tiflis, A.H. 738.

Æ 20 mm. 2.35 gr.

PLATE VIII, 9.

Similar to Lane-Poole, *Coins of the Mongols*, No. 280.

It is useful for Georgian history to note that the the other contemporary rival dynasts Mūsā, Tughā-Tīmūr and Jāhān-Tīmūr never apparently had control of the Tiflis mint. Abū Sa'īd's sister, the Princess Sātī Beg, struck silver at Tiflis in A.H. 739,² but none of her coins from here are in the ANS collection.

The next of the rival puppet Khans represented in our series is Sulaymān, who married Sātī Beg and ruled under the protection of Ḥasan Kūchuk, the Chūpānī, from 1339 until 1343, when Ḥasan was murdered by his own wife.³ Melik Ashraf, brother of Ḥasan Chūpānī,

¹ Ḥāfiẓ-i Abrū, trans. Bayani, II, 131.

² Barataev, *Num. fakty*, section I, p. 5; Markov, *Inventarny Katalog*, p. 591, No. 504.

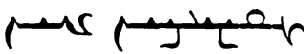
³ Howorth, *History of the Mongols*, III, pp. 646-50.

had rebelled against the latter, fled to Georgia and, on Ḥasan's assassination, now assumed power, appointing one of his partisans to be governor of Georgia.¹

44. Dirhem Tiflis A.H. 741/1340-41 A.D.

Obv. Within eightfoil, Sunni pious formula, surrounded by the names of the Four Orthodox Caliphs.

Rev. Area, within eightfoil:

السلطان	The Sultān
	Suleiman Khan
خلد ملكه	May his reign be perpetuated.

Margin, between eightfoil and linear circle border, contains mint-date formula: Tiflis, A.H. 741.

℞ 17 mm. 1.30 gr. (holed)

PLATE VIII, 10.

Similar to Lane-Poole, *Coins of the Mongols*, No. 330. The ANS collection has another dirhem of Sulaymān, dated A.H. 741, but of doubtful mint, possibly Tiflis (similar to Lane-Poole's No. 320).

The epigraphy, especially on the reverse, shows signs of debasement.

The last of the decayed Il-Khans was Anūshirvān, or Nūshirvān (1344-1357), a figurehead ruler of dubious pedigree set up at Tabriz by the tyrant Ashraf Chūpānī. His reign was brought to an abrupt conclusion by the invasion of Jānī-Beg of the Golden Horde in 1357. His silver coinage shows progressive signs of degeneration.

45. Dirhems Tiflis A.H. 750 and 751/1349-51 A.D.

Obv. Area, within border design portraying a *mihrāb*, contains Sunni pious formula.² Around border, names and titles of the Four Orthodox Caliphs, partly effaced.

¹ Ḥafiz-i Abrū, trans. Bayani, II, 136, 148.

² A similar motif has already been noted as occurring on the coinage of Abū Saʿīd about the year 719 A.H. (see Nos. 32 and 33, above).

Rev. Area, within hexagonal border:

ضرب	Struck
السلطان العادل	The Sultān the just
نوشروان	Nūshirvān
خلد الله ملكه	May God perpetuate his reign.

Margin, in six compartments, contains mint-date formula: Tiflis, A.H. 750 and 751.

AR 17-18 mm. 1.46-1.49 gr.

PLATES VIII, II and IX, 1.

46. Dirhem Tiflis A.H. 75*.

Obv. Area, within linear circle, contains Sunnī pious formula, surrounded by the names of the Four Orthodox Caliphs.

Rev. Area, within hexagonal ornamented border:

ضرب	Struck
السلطان	The Sultān
انوشروان	Anūshirvān,
خلد ملكه	May his reign be perpetuated,
تفليس	Tiflis.

Margin, in six compartments, contains the date formula: A.H. 75*.

AR 16 mm. 1.20 gr.

PLATE IX, 2.

47. Dirhem Tiflis A.H. 7** (c. 753).

Obv. Area contains Sunnī pious formula in Cufic characters disposed in a square. Around, the names of the Four Orthodox Caliphs.

Rev. Area, within ornamented hexagon:

ضرب	Struck
نوشروان	Nushirvan

تفليس

Tiflis

خلد ملکه

May his reign be perpetuated.

Four small stars arranged in pattern in area.

Margin contains date formula: A.H. 7**.

R 14 mm. 1.01 gr.

PLATE IX, 3.

The ANS has on loan from the University Museum in Philadelphia a dirhem of the same design and virtually the same weight (1.03 gr.), dated Tabriz, A.H. 753/1352–3 A.D. It is safe to conclude therefore that the above specimen from the Tiflis mint dates from about this year.

This concludes the series of Il-Khanid Tiflis coins in the ANS collection.

Besides Tiflis, however, the last Il-Khans operated another mint in Georgia, namely at Qarā-Aghāch, or “Black Wood” in Kakhet’i on the country’s south-eastern marchlands. The town is known in Georgian sources as Qaraghaji.

Our study is complicated by the fact that at different periods, the Mongols of Persia had mints in two separate and distinct localities of this name. Under Uljaitu, in A.H. 711 and 713/1311–14 A.D., Anatolian-type silver coins occur with the mint-mark قراغاج. This can hardly be the Georgian Qarā-Aghāch: the specimen in the ANS collection was found in a hoard of silver coins of Uljaitu, mostly minted at ‘Alā’yah on the Mediterranean coast of Anatolia.¹ The coin in question from Qarā-Aghāch bears, like the other specimens in the hoard, a Qaramānid counterstamp.² This must surely be the Qarā-Aghāch mentioned by Ibn Baṭūṭa in his travels in Asia Minor, as being in the neighbourhood of Qul Ḥiṣār.³ It is doubtless the “Qarā-Aghāch of Yalvāch” listed by Mostras.⁴

¹ Cf. G. Le Strange, *The Lands of the Eastern Caliphate*, Cambridge, 1930, pp. 150–51.

² The other recorded coin of Uljaitu from this Qarā-Aghāch, dated A.H. 711, is listed in Lane-Poole, *Coins of the Mongols*, No. 146.

³ Ibn Baṭūṭa, ed. Defrémery and Sanguinetti, II, 270. Cf. Fraehn, in another context: “... Moneta Kara-aghatschae (quod haud scio an oppidum Karamanae sit)” (*De Il-Chanorum numis*, p. 535).

⁴ C. Mostras, *Dictionnaire géographique de l'Empire Ottoman*, St. Petersburg, 1873, p. 136; V. Cuinet, *La Turquie d'Asie*, III, Paris, 1894, pp. 639–42.

The next numismatic mention of Qarā-Aghāch occurs a quarter of a century later, when the Il-Khanid empire was already breaking up. Several dirhems of Muḥammad Khan, the nominee of Shaykh Ḥasan Buzurg, minted at Qarā-Aghāch in A.H. 738/1337–8 A.D., have been recorded.¹ In 740 A.H., Sulaymān, the creature of Ḥasan Kūchuk, was minting there.² Under Anushirvān, there occur a whole series of various types and dates, including four in the ANS collection, described below.³

Several considerations make it impossible for this Qarā-Aghāch to be identical with Uljaitu's mint-town of this name in south-western Asia Minor. From what is known of the troubled history of the period, it would be most surprising for Muḥammad, Sulaymān or Anūshirvān Khan to be in a position to claim even the most shadowy suzerainty over the Qaramānid dominions.

General Bartholomaei was of the opinion that this Qarā-Aghāch should be sought rather in the region of Shīrvān, where a substantial number of the later Il-Khanid mints are situated.⁴ Recent discoveries have borne out this view. In 1949, E. A. Pakhomov published details of a hoard found in 1940 at Qaraghaji in the Dsit'eldsqaro, or "Red-Spring" district of Kakhet'i, in the south-eastern corner of the Georgian Soviet Republic, and close to the historic boundaries of Shirvan. This hoard was made up of dirhems of Sulaymān and Anūshirvān minted at Qarā-Aghāch (Qaraghaji) itself, as well as at Tiflis, Tabriz, Sultāniya, Ardabil, Marāgha, Ganja, Shīrvān, etc., in other words, from centers in Transcaucasia and north-west Persia.⁵ It is worth noting also that a similar hoard, found near Kars in Turkish Georgia in 1877, contained coins of Anūshirvān minted at Qarā-Aghāch, Tiflis, Ganja, Nakhchevan, etc., that is to say, again from towns in Transcaucasia.⁶ This should be enough to demonstrate that the second Qarā-Aghāch mint is indeed the Georgian Qaraghaji.

¹ Fraehn, No. 210; Bartholomaei à Soret, IV, *Rev. Num. Belge*, 1864, p. 314, No. 75; Markov, *Inventarny Katalog*, Supplement 4, p. 1036, No. 482a.

² Bartholomaei à Soret, IV, *Rev. Num. Belge*, 1864, p. 318, No. 97*.

³ See also Markov, *Inventarny Katalog*, p. 593, No. 547, p. 596, No. 643, Supplement 4, p. 1038, No. 652h.

⁴ Bartholomaei à Soret, III, *Rev. Num. Belge*, 1862, p. 90.

⁵ Pakhomov, *Monetnye klady*, fasc. IV, Baku, 1949, pp. 50–51, No. 1160.

⁶ Pakhomov, *Monetnye klady*, fasc. III, Baku, 1940, p. 51, No. 863.

This place is well known to Georgian historical geography. Prince Wakhusht, writing in the eighteenth century, stated that it had been ravaged by the Golden Horde leader Bārākā (Berke) in 1265–66, which shows that it already existed as a township in the Mongol period.¹ It was in the district of K'isiq, between the Alazan and Iori rivers, which indeed corresponds to the present-day administrative district of Dsit'eldsqaro. In the seventeenth century, it became the administrative capital of Kakhet'i under the Šafavīs. The Shahs' vice-roys resided there from 1657 until the end of the century and one of them built a palace in the Persian style. From 1703, King David III (Imām-Qūlī-Khān) of Kakhet'i resided at Qaraghaji, until he removed his capital to T'elavi in 1706. Ottoman occupation troops built a fortress there in 1733.² The development of the town and fortress of Sighnaghi in a less vulnerable area of K'isiq during the latter half of the eighteenth century hastened Qaraghaji's decline to its present-day insignificance.

48. Dirhem Qarā-Aghāch A.H. 746/1345–6 A.D.

Obv. Sunnī pious formula arranged to form a triangle. Within triangle, in the centre, the name of 'Alī is inscribed, surrounded by the names of the other three Orthodox Caliphs. Outside the triangle, the formula:

	بسم الله الكريم	In the name of Allāh the All-Bountiful.
Rev.	السلطان	The Sulṭān
	نصير الحكيم	Nushirvan Khan
	خلد ملكه	May his reign be perpetuated.

Around, mint-date formula: Qarā-Aghāch, A.H. 746.

AR 18 mm. 1.41 gr.

PLATE IX, 4.

Type of Fraehn, Pl. II, No. 232.

¹ Wakhusht, *Description géographique de la Géorgie*, ed. Brosset, St. Petersburg, 1842, p. 309. See also Rashīd al-Dīn, *Sbornik Letopisey*, trans. Arends, III, 1946, p. 68.

² Prince Wakhusht, "Histoire du Cakheth," in M.-F. Brosset, *Histoire de la Géorgie*, II, 1, St. Petersburg, 1856, pp. 173–93; V. Minorsky, *Tadhkirat al-Mulūk*, London, 1943, pp. 102, 167; Platon Ioseliani, *Goroda, sushchestvovavshie i sushchestvuyushchie v Gruzii*, Tiflis, 1850, p. 49.

49. Dirhem Qarā-Aghāch A.H. 74*.

Obv. Area contains Sunnī pious formula inscribed diagonally within lozenge. In segments between lozenge and outer circle, names of the Four Orthodox Caliphs.

Rev. Area, inscribed diagonally within ornamented lozenge:

السلطان العادل

The Sultān the just

انوشروان

Anūshirvān

خلد ملکه

May his reign be perpetuated.

Around lozenge, mint-date formula: Qarā-Aghāch, A.H. 74*.

℞ 20 mm. 1.47 gr. (holed).

PLATE IX, 5.

Bartholomaei à Soret, IV, *Rev. Num. Belge*, 1864, No. 142*.

50. Dirhem Qarā-Aghāch A.H. 750/1349-50 A.D.

Obv. Area, within square, contains Sunnī pious formula. Margin, in segments between square and linear circle, contains names of the Four Orthodox Caliphs.

Rev. Area, within oval:

السلطان

The Sultān

نصیر بن حکیم

Nushirvan

خلد ملکه

May his reign be perpetuated.

Above and below oval, mint-date formula: Qarā-Aghāch, A.H. 750.

℞ 16 mm. 1.26 gr.

PLATE IX, 6.

Bartholomaei à Soret, II, *Rev. Num. Belge*, 1861, No. *48.

51. Dirhem Qarā-Aghāch A.H. 75*.

Obv. Sunnī pious formula, surrounded by the names of the Four Orthodox Caliphs.

Rev. Area, within hexagon:

السلطان

The Sultān

ضرب	Struck
انوشروان	Anūshirvān
قرا اغاج	Qarā-Aghāch
خلد ملکه	May his reign be perpetuated.

In segments between hexagon and outer circle, date formula: A.H. 75*.

AR 16 mm. 1.18 gr.

PLATE IX, 7.

Georgia and the Jalā'irids (1357-1410)

The most powerful of the minor dynasties which carved up the disrupted Il-Khanid empire was that of the Jalā'irs, the descendants of Shaykh Ḥasan Buzurg. These princes made Baghdad their capital, but gained control over much of Persia and Transcaucasia.

For a short time after the suppression of Anūshirvān, the mints at Tiflis and at Qarā-Aghāch were under Jalā'irid control. Dirhems struck in the name of Shaykh Ḥasan, and, apparently anonymously, by his successor Uwais were minted in both places in A.H. 757-8/1356-7 A.D.¹

Another discovery of much interest for Georgian history during this turbulent period is that coins of the Golden Horde were also minted at Qarā-Aghāch in A.H. 758/1357 A.D. Azerbaijan had been invaded in 1357 by Jānī-Beg, Khan of the Golden Horde, who seized Tabriz and executed Anūshirvān's patron, the tyrant Ashraf Chū-pānī. Jānī died or was murdered in 1357 by his son and successor Birdī-Beg, who soon after retired to the Qipchaq. Tabriz was then captured by the Jalā'ir Uwais.² That Georgia also was involved in this complicated struggle for power is shown by this fresh numismatic

¹ E. A. Pakhomov, *Klady Azerbaydzhana i drugikh respublik i kraev Kavkaza*, fasc. II, Baku, 1938, Nos. 472-73; Bartholomaei à Soret, II, *Rev. Num. Belge*, 1861, No. *60; A. K. Markov, *Katalog Dzhelairidskikh monet*, St. Petersburg, 1897, p. LII. For a general survey, see further H. L. Rabino, "Coins of the Jalā'ir, Kara Koyūnlū, Musha'sha', and Ak Koyūnlū dynasties," in *Numismatic Chronicle*, 1950.

² See V. Minorsky, article "Tabriz," in the *Encyclopaedia of Islām*.

evidence. The existence of these Qarā-Aghāch coins of A.H. 758, struck in the names of both Jānī-Beg and Birdī-Beg, was first made known by E. A. Pakhomov.¹ It is important to know that part at least of eastern Georgia was brought at this period, however briefly, under the authority of the Golden Horde.

These Tatar invasions help to explain why no coins have come to light bearing the name of the Georgian king David IX (1346–60), the successor of Giorgi the Brilliant. Nor have any been discovered that can be attributed with any confidence to Bagrat V (1360–93).

With regard to Giorgi VII (1393–1407), the doughty adversary of Tamerlane, the numismatic picture is confused. Three small silver pieces published by Langlois were attributed by him, partly on the strength of information supplied to him by Bartholomaei, to Giorgi VII assertedly reigning jointly with and under the aegis of Shaykh Aḥmad Jalā'ir (1382–1410).² This ascription has since been tacitly accepted by some later writers.³ Yet examination of Langlois' illustrations is enough to arouse misgivings. For one thing, the inscription which he read as the name and title of King Giorgi VII in Georgian characters is unmistakably the Sunnī pious formula. A. K. Markov, when preparing his standard history of the Jalā'irid coinage, sent to the Cabinet des Médailles at the Bibliothèque Nationale, where these coins are preserved, for a fresh report on them. It transpired that their inscriptions contain no mention whatever of any King Giorgi, the only ruler mentioned being a certain Aḥmad. Comparison with known issues of Aḥmad Jalā'ir even led Markov to question whether the specimens in question were of Jalā'irid type at all, or belonged to some other Aḥmad.⁴ However this latter point

¹ Pakhomov, *Klady Azerbaydzhana*, fasc. II, Baku, 1938, No. 472. In the same hoard were found coins of Jānī and Birdī-Beg, also dated A.H. 758, from Barda'a, Tabriz, Ganja, Nakhchevan, etc.

² V. Langlois, "Supplément à l'essai de classification des suites monétaires de la Géorgie," in *Rev. Num. Belge*, 1861, Nos. 9–11.

³ E.g. E. A. Pakhomov, "Kak otrazhalis' istoricheskie sobytiya na monete Gruzii," in *Letopis' Gruzii*, ed. B. Esadze, Tiflis, 1913, p. 57; Pakhomov, *Klady Azerbaydzhana*, fasc. II, p. 46; D. Kapanadze, "XV saukunis k'art'uli p'ulis Goris gandzi," in the Tiflis Museum *Moambe*, XB, 1940, p. 302.

⁴ A. K. Markov, *Katalog Dzhelairidskikh monet*, St. Petersburg, 1897, pp. LXIX–LXX. Personal examination of these coins in Paris bears out Markov's view.

may be, it is clear that these coins cannot be admitted into the Georgian monetary series.

Summary of the Mongol Period

The following tables have been drawn up to illustrate the numismatic history of Georgia during the Mongol Great Khan, Il-Khan, Jalā'irid and Golden Horde dominations. The list is not confined to the specimens from the ANS collection described in detail in the preceding pages. Use has been made of the card-index of Il-Khanid coinage compiled from various sources by Dr. G. C. Miles, as well as recent Soviet publications, which have for the most part been quoted already in footnotes.

MINT	DATE	TYPES
<i>Akhaltzikhe</i>	A.H. 694-703	Il-Khanid: Ghāzān.
	716	Il-Khanid: Uljaitu.
<i>Dmanisi</i>	642	Georgian vassal: David Narin.
<i>Qarā-Aghāch</i>	738	Il-Khanid: Muḥammad.
	740	Il-Khanid: Sulaymān.
	741	Il-Khanid: Sulaymān.
	745	Il-Khanid: Anūshirvān.
	746	Il-Khanid: Anūshirvān.
	748	Il-Khanid: Anūshirvān.
	750	Il-Khanid: Anūshirvān.
	752	Il-Khanid: Anūshirvān.
	753	Il-Khanid: Anūshirvān.
	756	Il-Khanid: Anūshirvān.
	757	Jalā'irid: Shaykh Ḥasan Buzurg.
	758	Jalā'irid: ? Anon.
<i>Tiflis</i>		Jujid, Golden Horde: Jānī-Beg.
		Jujid, Golden Horde: Birdī-Beg.
	642	Great Khan: Queen-Regent Turakina.
	645 (467	of the Georgian Paschal Cycle, 1247 A.D.)
		Georgian vassals: David Narin, David Ulugh.

647 Georgian vassal: David Narin
650 Great Khan: Mangu
Georgian vassals: David Narin,
David Ulugh.
651 Great Khan: Mangu
Georgian vassal: David Ulugh.
652 Great Khan: Mangu
Georgian vassal: David Ulugh.
653 Great Khan: Mangu.
654 Great Khan: Mangu
Georgian vassal: David Ulugh.
655 Great Khan: Mangu.
656 Great Khan: Mangu.
657 Great Khan: Mangu.
658 Great Khan: Mangu.
659 Great Khan: Mangu.
660 Anonymous (Hulagu): "Kaanniki I."
661 Anonymous (Hulagu): "Kaanniki I."
662 Anonymous (Hulagu): "Kaanniki I."
663 Anonymous (Abagha): "Kaanniki II."
665 Anonymous (Abagha): "Kaanniki II."
666 Anonymous (Abagha): "Kaanniki II."
667 Anonymous (Abagha): "Kaanniki II."
668 Anonymous (Abagha): "Kaanniki II."
669 Anonymous (Abagha): "Kaanniki II."
670 Anonymous (Abagha): "Kaanniki II."
671 Anonymous (Abagha): "Kaanniki II."
672 Anonymous (Abagha): "Kaanniki II."
673 Anonymous (Abagha): "Kaanniki II."
674 Anonymous (Abagha): "Kaanniki II."
675 Anonymous (Abagha): "Kaanniki II."
676 Anonymous (Abagha): "Kaanniki II."
677 Anonymous (Abagha): "Kaanniki II."
678 Hulaguid-Christian: Abagha and
Dimitri
Anonymous (Abagha): "Kaanniki II."
680 Hulaguid-Christian: Abagha and Dimitri

Tiflis

- Anonymous (Abagha): "Kaanniki II."
- 681 Hulaguid-Christian: Abagha and Dimitri.
 682 Hulaguid-Christian: Aḥmad and Dimitri.
 683 Hulaguid-Christian: Aḥmad and Dimitri.
 Hulaguid-Christian: Arghun and Dimitri.
 684 Hulaguid-Christian: Arghun and Dimitri.
 685 Hulaguid-Christian: Arghun and Dimitri.
 686 Hulaguid-Christian: Arghun and Dimitri.
 686 Hulaguid-Christian: Arghun and Dimitri.
 687 Hulaguid-Christian: Arghun and Dimitri.
 688 Hulaguid-Christian: Arghun and Dimitri.
- N.D. (c. 691-4) Hulaguid-Christian: Gaikhatu and David VIII.
- 696 Hulaguid-Christian: Ghāzān and David VIII.
- 701 Il-Khanid standard series: Ghāzān.
- N.D. (c. 701-3) Hulaguid-Christian: Ghāzān and Wakhtang III.
- 705 Il-Khanid: Uljaitu.
 708 Il-Khanid: Uljaitu.
 710 Il-Khanid: Uljaitu.
 711 Il-Khanid: Uljaitu.
 712 Il-Khanid: Uljaitu.
 714 Il-Khanid: Uljaitu.
 715 Il-Khanid: Uljaitu.
 717 Il-Khanid: Abū Saʿīd.
 719 Il-Khanid: Abū Saʿīd.
 722 Il-Khanid: Abū Saʿīd.
 723 Il-Khanid: Abū Saʿīd.
 724 Il-Khanid: Abū Saʿīd.
 725 Il-Khanid: Abū Saʿīd.
 726 Il-Khanid: Abū Saʿīd.
 727 Il-Khanid: Abū Saʿīd.
 728 Il-Khanid: Abū Saʿīd.
 729 Il-Khanid: Abū Saʿīd.
 730 Il-Khanid: Abū Saʿīd.

<i>Tiflis</i>	732	Il-Khanid: Abū Saʿīd.
Year 33		
al-Khāniyeh:	734-5	Il-Khanid: Abū Saʿīd.
	736	Il-Khanid: Arpā.
	738	Il-Khanid: Muḥammad.
	739	Il-Khanid: Princess Sātī-Beg.
	740	Il-Khanid: Sulaymān.
	741	Il-Khanid: Sulaymān.
	745	Il-Khanid: Anūshirvān.
	746	Il-Khanid: Anūshirvān.
	747	Il-Khanid: Anūshirvān.
	750	Il-Khanid: Anūshirvān.
	751	Il-Khanid: Anūshirvān.
	752	Il-Khanid: Anūshirvān.
	757	Jalāʾirid: ? Anon.
	758	Jalāʾirid: Shaykh Ḥasan Buzurg.

VI. GEORGIA AND THE EMPIRE OF TREBIZOND

While the Il-Khans held Eastern Georgia in subjection, David Narin and his posterity maintained a precarious independence as monarchs of Imeret'i, "the land on the far side" of the Likhi Hills which divide eastern from western Georgia. Their realm soon began to break up, the princes of Mingrelia, Guria and Abkhazia giving reign to their separatist ambitions. About 1330, Giorgi the Brilliant brought western Georgia under his authority. Particularist trends again triumphed after the death of Alexander I (1412-43), the last king of united Georgia. The country remained divided until the Russian annexation early in the nineteenth century.

To the southwest, Georgia bordered at this period on the Empire of Trebizond. The Comneni had set themselves up there with the aid of the Georgian Queen T'amar after the fall of Constantinople to the Latins in 1204. Community of faith and interest resulted in the maintenance of close economic and political links between Georgia and Trebizond throughout the two and a half centuries of the Empire's existence. Relations were further cemented by marriages between the Comnenian and Bagratid royal houses.

The first monetary series of Trebizond dates from the reign of John I (1235-38). Under his successor Kyr Manuel I (1238-63), the characteristic type of Trapezuntine silver coinage, the asper, took on definitive form and became well-known and popular in commerce.¹ Authentic aspers are often encountered in hoards dug up in Georgia.²

The Georgians were hemmed in by the Mongols to east and south and obliged to coin and employ in their transactions the money of their overlords. As a reaction from this state of affairs, it was natural

¹ W. Wroth, *Catalogue of the Coins of the Vandals, Ostrogoths and Lombards and of the Empires of Thessalonica, Nicaea and Trebizond in the British Museum*, London, 1911, p. lxxviii.

² T'. Lomouri, "P'uli Shot'a Rust'avelis epok'ashi," in *Shot'a Rust'avelis epok'is materialuri kultura*, ed. I Javakhishvili, Tiflis, 1938, p. 302. A number of instances will be found in the four fascicules of Pakhomov's *Monetnye klady*.

that the Christian iconography of the Trapezuntine asper, with its effigy of the Emperor on one side and Saint Eugenius, patron of Trebizond, on the other, should have made a special appeal to the hard-pressed Georgian population.

Georgian imitations of the asper of John II (1280–97) form an abundant and curious group. Although certain crudely struck aspers of the earlier period have been ascribed to Georgian mints,¹ it was not until this reign that the systematic fabrication of these imitations began in Georgia. It is worth noting in this connection that the throne of Trebizond was seized for a few months in 1285 by Theodora, daughter of Kyr Manuel I by his consort, the Georgian princess Rusudan.² Theodora was supported by a Georgian army sent by King David Narin. This episode gave the Georgians even more opportunity of becoming familiar with the coinage of Trebizond.

Once imitation of John II's aspers had begun, no attempt was made to introduce new types from Trebizond. The Georgian fabrications all bear the name of that monarch, or vague shapes representing degradations of it, in Greek characters. In spite of this, they are known as "Kirmaneuli" or "Kilmanauri," i.e., coins of Kyr Manuel, the first Emperor of Trebizond whose coins had enjoyed wide circulation in western Georgia. The widely varying stages of degradation of these imitations, and the rubbed and battered condition of many of the surviving specimens, indicate that they were minted and circulated over a long period. This is confirmed by documentary evidence: throughout the 15th and as late as the 17th century, the "Kirmaneuli t'et'ri" (i.e. white, or silver piece) is mentioned in charters, often with the qualifying adjective "dzveli" or old. It was the usual monetary unit employed in royal charters laying down the blood money of members of the nobility and other deserving subjects.³

¹ It is hard to follow Wroth (*Vandals, etc.*, pp. 255–56) in regarding as Georgian imitations a small group of aspers of Manuel I on which the epithet ὁ Τραπεζουάντιος is added to the name of St. Eugenius. It seems more likely that a certain lack of elegance in this series arises from its early, experimental stage of development.

² O. Retowski (Retovsky): "Die Münzen der Komnenen von Trapezunt," in *Numizmaticheskyy Sbornik*, I, Moscow, 1911, p. 244.

³ S. Kakabadze, "Sasikhlo sigelbis shesakheb," in *Saistorio Moambe*, II, Tiflis, 1924, pp. 1–107. As late as 1601, King Rostom of Imeret'i edicted a blood-price of "80,000 dzveli kirmanauli" (p. 38).

It seems clear however that quantities of "Kirmaneuli" specified refer not to the number of coins to be paid, but to their total weight in silver: King Bagrat II wrote in a charter in 1472: "For whoever knows not the nature of a Kirmanauli t'et'ri, a Kirmanauli is the weight of a t'angi."¹ The average Georgian Kirmaneuli weighs around two grammes, or 2½ t'angi.

A full description of the innumerable variants encountered in this group will be found in the works of Retovsky and Wroth.² It seems sufficient for our purposes to divide them into two categories according to their degree of barbarism, which becomes progressively greater as the series diverges little by little from its Trapezuntine prototype. In extreme examples, the Saint's face assumes a bloated aspect, as if suffering from tooth-ache. Mr. Roland Gray has kindly pointed out the existence in the Whittemore Collection at the Fogg Museum at Harvard of a couple of specimens which surpass in crudity any illustrated in the literature.

The examples in the ANS collection fall into the following categories:

52. "Kirmaneuli t'et'ri:" Imitations of aspers of John II of Trebizond. [Mints in western Georgia: K'ut'ais, Akhaltsikhe (?) etc.]
Early phase of degradation (late 13th.-14th. centuries?).

Obv. John II, bearded, standing facing, holding in r. labarum with short shaft, in l. globus cruciger, distorted in one case to resemble a long cross; wears crown, mantle and tunic and sash passing diagonally across tunic and falling over l. arm, the robes being decorated with pellets in various combinations. In field, upper r., traces of *manus Dei* crowning the Emperor, often distorted or effaced. Below, l. or r., Solomon's Seal.

¹ S. Kakabadze, in *Saistorio Moambe*, II, p. 63. A t'angi or dangi is the sixth part of a miskhal, or .8 gr. When the Georgian monetary system became identified with that of Persia, the dangi was considered equivalent to the weight of a shāhī or shauri. The Kirmaneuli was then valued at two shauris. (See Karst, *Précis de numismatique géorgienne*, pp. 15, 30; Prince Wakhusht, *Sak'art'velos istoria*, ed. Bak'radze, Tiflis, 1885, p. 299.)

² Retovsky, *Münzen der Komnenen*, pp. 220-41, Pls. VIII-X; Wroth, *Vandals, etc.*, pp. 272-73, Pl. XXXVII, Nos. 6-10.

Inscription in varying degrees of distortion:

I	W	N
O		
K	O	O
HN		C

Rev. St. Eugenius, bearded and nimbate, standing facing; in r., long cross; l. holds robe.

Inscription in varying degrees of distortion:

A	Γ
	Ε
Ε	N I
	O
V	C

R 20-23 mm. 1.83-2.11 gr.

PLATE IX, 8-11.

53. "Kirmaneuli t'et'ri."

Later phase of degradation (fourteenth-fifteenth centuries?).

Obv. John II, standing facing, as in preceding type. Labarum and globus cruciger degenerated into almost meaningless shapes. Features and robes of Emperor more crudely and schematically represented. Below, l. or r., Solomon's Seal. Inscription further garbled.

Rev. St. Eugenius, standing facing, as in preceding type. Features more crudely represented, taking on swollen appearance. Inscription further garbled.

R 21-22 mm. 1.72-2.21 gr.

PLATES IX, 12-13 and X, 1.

It is difficult to be anything but sceptical about the attempts which have been made to read Georgian inscriptions on certain examples of this Georgian imitation asper series. In particular, efforts have been made to turn the degraded obverse inscription into the letters MP'GI, for "Mep'e Giorgi," or "King Giorgi," in Georgian ecclesiastical majuscules. One such example is attributed by Barataev to King Giorgi III (1156-84), an obvious anachronism, by Bartholomaei and Langlois

to Giorgi VIII (1446–66) and by Retovsky, conjecturally, to Giorgi the Brilliant (1315–46).¹ Comparison of the illustrations given in support of this reading with specimens in the ANS and other collections make it more than doubtful whether these “Georgian characters” are anything more than distortions of the Greek inscription, without any particular significance.

Although the attribution to the various Georgian kings named Giorgi cannot be substantiated, there is a strong presumption that the coins were indeed associated with the name Giorgi, not indeed of a king, but of Georgia’s patron saint of that name, the famous dragon-slayer martyred by Diocletian, and also patron saint of England. In the code of King Wakhtang VI (early eighteenth century), mention is made of a silver piece of ancient times called “Giorgauli.”² King Bagrat of Imeret’i in the fifteenth century establishes the wer-geld or blood money of one of his subjects as “80,000 Gogauri (corruption for Giorgauli) t’et’ri.”³ Now on many of the more degraded specimens of these Georgian “Kirmaneuli” imitations, the only part of the name of St. Eugenius remaining consists of the letters ΓΕ, which might equally well be the beginning of the name of St. George.

It has to be borne in mind that the cult of St. Eugenius was local and peculiar to Trebizond, and quite unfamiliar in Georgia. In Georgian medieval iconography, St. George is omnipresent. He is not always shown on horseback; often he appears full-face holding a lance. If a long cross be substituted for the lance, his effigy is not unlike that of St. Eugenius on the aspers. (Paradoxically, St. Eugenius also had his equestrian phase: when Alexius II of Trebizond and his successors took to being represented on horseback after the familiar Anatolian pattern, St. Eugenius in sympathy also took to horse on the reverse of the coinage). An ikon of the fourteenth century from the church of Sujuna in Mingrelia shows St. George standing facing, with his name inscribed in Greek thus:

¹ Barataev, *Num. fakty*, section II, Pl. I; Bartholomaei, *Lettres numismatiques*, p. 46; Langlois, *Essai*, p. 104 (cf. also Langlois, *Numismatique de la Géorgie au Moyen Age*, Paris, 1852, p. 41); Retovsky, *Münzen der Komnenen*, p. 221.

² Karst, *Précis de numismatique géorgienne*, p. 12.

³ Kakabadze, in *Saistorio Moambe*, II, 1924, p. 58.

O	Г
A	Є
	O
Г	P
I	Г
	I
O	O
C	C

As can be seen, the layout of the lettering resembles that of the Trebizond aspers' reverse.¹ Our theory is, therefore, that the image of St. Eugenius was confused in Georgian popular estimation with the familiar St. George. Father V. Laurent has confirmed in personal discussion that such a transfer of identity of saints or rulers to fit in with local conditions and beliefs was also a frequent occurrence when Imperial Byzantine coinage was imitated by barbarian peoples in the west.

The Atabag of Samtskhe, Aghbugha, who ruled at Akhaltsikhe according to some sources in the late fourteenth, to others in the mid-fifteenth century, alludes in his Code of Laws to the fact that "Qazanuri t'et'ri" (dirhems of Ghāzān Khan) were current there in his grandfather Bek'a's time, but that they had now been replaced by coins "of the time of the great King Giorgi," i.e., Giorgi the Brilliant.² This statement does not specify that King Giorgi's name actually appeared on the coins. It has been shown in the chapter on the Mongol Period that the Il-Khans established a mint at Akhaltsikhe under Ghāzān, but it had apparently passed out of their hands by the time of Abū Sa'īd, Giorgi the Brilliant's contemporary. It may well be asked whether the mint was simply dismantled, or if not, what money was then minted in Akhaltsikhe. The evidence of coin hoards shows that Samtskhe, the domains of Bek'a and Aghbugha, was one

¹ E. T'akaishvili, "Sudzhunskaya tserkov' i ee drevnosti," in *Khristiansky Vostok*, V, 1917, pp. 40-50, Pls. XXVII, XXVIII, XXX, XXXII. See also *Georgische Kunst: Ausstellung der Deutschen Gesellschaft zum Studium Ost-europas*, Berlin, 1930, Abbildung 7: "Hl. Georg aus Oni (XIII Jahrhundert)." This shows an analogous example from Ratcha in Imeret'i.

² Karst, *Précis de numismatique géorgienne*, p. 14; Kakabadze, in *Saistorio Moambe*, II, 1924, p. 89.

of the regions where "Kirmaneuli" Trebizond imitations most commonly circulated. The answer in all probability is that in the time of Giorgi the Brilliant, Akhaltsikhe was a centre for the fabrication of imitation aspers, and that these are the coins of which Aghbugha was thinking.

With regard to denomination, Kakabadze concludes that the Kirmaneuli and Giorgauli were of identical value.¹ To have been used in establishing wergeld rates in royal charters, the Giorgauli must have been a coin of recognized pattern and wide circulation. This leads one to doubt whether Kapanadze is justified in identifying certain isolated barbarous imitations of later Il-Khanid issues, on which he tentatively reads the name and title of King Giorgi, with the Giorgauli t'et'ri, especially as his specimens weigh only 1.01 to 1.08 grammes, about half the weight of the Kirmaneuli.²

To sum up, our view is that Georgian imitations of the asper of John II, usually called Kirmaneuli, were also known as Giorgauli by confusion of St. Eugenius with St. George, and also served as the general currency of western Georgia in the time of King Giorgi the Brilliant.

It is worth adding that the Sukhum Museum in Abkhazia possessed a unique silver piece of Kirmaneuli type discovered in 1927, and bearing the name of Wamiq Dadiani I (1384-96). This interesting piece has been published by Kapanadze, who provides an adequate illustration.³ Perhaps it has some connection with the "Tskhumuri" (? for "Sukhumuri") silver pieces referred to in some medieval wergeld charters, though it is hard to come to any conclusion on the basis of a single specimen.⁴

¹ Kakabadze, in *Saistorio Moambe*, II, 1924, p. 92.

² D. Kapanadze, "Zogiert'i gaurkveveli k'art'uli p'ulis dat'arighebisat'vis," in the Tiflis Museum *Moambe*, XIIB, 1941, pp. 133-44.

³ See the Tiflis Museum *Moambe*, XIIB, 1944, p. 208, Pl. facing p. 203, No. 10; Pakhomov, *Klady Azerbaydzhana*, II, Baku, 1938, No. 483; *Vizantiysky Vremennik*, III, 1950, p. 209.

⁴ E.g., King Giorgi VIII, 1458: "220,000 dzveli Tskhumuri;" 1463: "400,000 dzveli Tskhumuri" (Kakabadze, in *Saistorio Moambe*, II, 1924, p. 63.)

VII. THE POST-TIMURID PERIOD

(Fifteenth–Sixteenth Centuries)

The ANS collection contains no coins of the Georgian kingdoms dating from this period. The ravages of Tamerlane had reduced the country to a state of ruin and devastation from which it never completely recovered. What rare coins of this epoch have come to light bear witness to the land's deplorable condition by their crude fabric and the debased silver from which they were struck.

Langlois has published coins of Giorgi VII (1393–1407) and Constantine I (1407–12) from the Lori hoard discovered in 1830¹. Our knowledge of the later fifteenth century monetary series is based principally on the important Gori hoard found in 1935, containing almost ten thousand pieces. The substantial portion acquired by the Tiflis State Museum has been studied and analysed by Kapanadze in an exceedingly able article.² Many of the coins are of types previously unknown, and can be ascribed beyond reasonable doubt to Wakh-tang IV (1443–46), Giorgi VIII (1446–66), Bagrat VI (1466–78) and Constantine II (1478–1505).³ There are also a few which appear to belong to the co-regnancy of Bagrat VI and Constantine II, having traces of the names of both rulers.

The characteristic type of Constantine II's coinage, of which several hundred were recovered from the hoard, shows on one side a lamb bearing on its back a cross, and on the other the King's name or

¹ Langlois, *Essai*, pp. 94–99, Pl. VII, Nos. 11–18. The dubious coins which Langlois ascribed to Giorgi VII and Aḥmad Jalā'ir have been discussed above, in the chapter on the Mongol period.

² D. Kapanadze, "XV saukunis k'art'uli p'ulis Goris gandzi," in the Tiflis Museum *Moambe*, 1940, pp. 279–305.

³ The engravings of coins of other types ascribed by Langlois to some of these kings (*Essai*, Pl. VIII, Nos. 1–8) do not inspire confidence, though comparison with the actual coins now in the Cabinet des Médailles, Paris, shows that they are reasonably faithful reproductions. It should be noted that some of them bear a superficial resemblance to early crude types of Russian den'ga.

monogram in various combinations of Georgian ecclesiastical majuscules:

ჰ ლ ზ
—
ჰ ზ ჟ

ჰ ჟ ჟ ჟ
—
ჰ ზ ზ ჟ

ჰ ჟ
—
ჰ ლ

ჰ ლ
—
ჰ ჟ

The Tiflis Museum also possesses a Georgian coin, so far unpublished, attributed by Kapanadze to David X (1505–25).¹

After David X, the Georgian national coinage seems to have lapsed. The triumph of regional particularism after the death of Alexander I (1412–43) had resulted in the splitting up of Georgia into small principalities, constantly engaged in civil strife. In eastern Georgia, the Bagratids of K'art'li and Kakhet'i rivalled one another from their capitals at Tiflis and Gremi, failing to form a united front against the new Safavi power in Persia. In the west, Imeret'i had lost Abkhazia, Mingrelia, Guria and Samtskhe, which were ruled by their own petty dynasts. Samtskhe fell to the Turks in 1578, and the rest of western Georgia suffered from their raids and exactions, which included tributes of male and female slaves, until the Russian occupation in the nineteenth century.

According to a recent report from Tiflis, however, a unique coin bearing the name and effigy of King Giorgi II of Imeret'i (seventeenth century) has come to light in Svanet'i. T. Lomouri is preparing to publish this important find.²

As compensation for the decline of the national coinage, the money of neighbouring Muslim powers became generally current in Georgia, where coins of the Shīrvānshāhs, Black and White Sheep Turcomans and early Safavis and Ottoman Sultans are constantly dug up, as well as occasional Venetian sequins and other gold pieces current in the Levant.

¹ Tiflis Museum *Moambe*, XB, 1940, p. 288.

² Tiflis Museum *Moambe*, XVIB, 1950, "Muzeumis k'ronika," p. 281.

VIII. GEORGIA AND THE SAFAVIS

(1604–1722)

The long series of attempts by the Shahs of Persia to bring eastern and southern Georgia by force or cajolement under the Iranian sceptre culminated in 1614 in a systematic effort by Shah ‘Abbās I to depopulate and subjugate Kakhet‘i and K‘art‘li. King Luarsab of K‘art‘li was lured into captivity and strangled, and over a hundred thousand Georgians deported to distant parts of Persia. The Shah’s garrisons were installed in what remained of the principal towns, and a puppet ruler, Bagrat VII, installed in Tiflis. The doughty King T‘eimuraz I of Kakhet‘i, however, continued for many years to harass the occupying power.

A Persian Imperial mint had begun to operate in Tiflis even before ‘Abbās’s invasion. The earliest coins of the Safavi series minted there bear the date A.H. 1013/1604–5 A.D.,¹ and fall in the reign of Giorgi X of K‘art‘li (1600–5), who had been obliged to acknowledge the Shah’s suzerainty following the Persian recapture of Erivan from the Turks in 1602.²

As these Tiflis Safavi issues follow well-known Persian patterns, fully described in standard works on the coinage of the Shahs of Iran,³ it has not seemed necessary to describe in detail each item in the ANS collection, beyond giving lists of dates and reigns represented.

Shah ‘Abbās I (1581–1629)

54. ‘Abbāsī Tiflis A.H. 1014 (?)/1605–6 A.D.

Irregular oval cast planchet.

℞ 27 mm. 7.13 gr.

PLATE X, 2.

¹ L. Krehl, *De numis muhammadanis in numophylacio regio Dresdeni asservatis commentatio*, Leipzig, 1856, p. 69.

² Allen, *History of the Georgian People*, p. 165.

³ R. S. Poole, *The Coins of the Shahs of Persia in the British Museum*, London, 1887; H. L. Rabino di Borgomale, *Coins, Medals and Seals of the Shāhs of Irān, 1500–1941*, London, 1945, with *Album*, Oxford, 1951.

Three other specimens:

N.D. 19 mm. 7.09 gr. (thick fabric)
 N.D. 23 mm. 7.19 gr. (badly struck)
 N.D. 24 mm. 7.54 gr. (irregular fabric).

The inferior workmanship of these pieces suggests that some of them at least are provincial imitations, possibly from western Georgia. The seventeenth century missionary Father Archangelo Lamberti notes in his "Relation de la Mengrellie" that Prince Levan Dadiani of Mingrelia (1605-57) struck money "avec des caractères arabes, semblable à celle qui a cours dans la Perse, nommée Abassi; mais ceux du pays estiment davantage les réaux d'Espagne et les monnaies étrangères." (See M. Thévenot, *Relations de divers voyages curieux*, tom. I, Paris, 1696, p. 43.)

Autonomous coppers, or fulūs,¹ were struck in every city of importance in Persia from the early seventeenth century. Those of Tiflis are among the earliest examples recorded. Markov and Lane-Poole list a type of A.H. 1012/1603-4 A.D., showing a three-masted ship, and others of subsequent dates depicting the sun rayed, an antelope, a rhinoceros and a lion seizing a bull.²

55. Fulūs Tiflis A.H. 1014/1605-6 A.D.

Obv. Lion, facing left; above, ornaments, degradation of sun. Around, arabesque.

Rev. Area, within lozenge, having ornament on each side, shows lion facing left.

Margin:

ضرب فلوس تفلیس ۱۰۱۴

Fulūs struck at Tiflis, A.H. 1014.

Æ 26 mm. 10.20-10.33 gr.

PLATE X, 3.

Markov, *Inventarny Katalog*, p. 766, No. 84; Poole, *Shahs of Persia*, p. 234, Nos. 95-96; Rabino, *Album of Coins, Medals and Seals of the Shāhs of Irān*, PL XXXIII, No. 57.

¹ Plural of Arabic *fals*, standardized in Persian monetary terminology in singular sense.

² Markov, *Inventarny Katalog*, pp. 766-67; Poole, *Shahs of Persia*, p. 235.

This seems an appropriate point at which to include two coppers of obscure type in the ANS collection, although their attribution to Tiflis is open to question.

56. Fulūs Tiflis(?) N.D.

Obv. Lion, left, and sun rayed. Linear border.

Rev. تفلیس (?) Tiflis (?)

ضرب Struck

Æ 26 mm. 8.73 gr.

PLATE X, 4.

57. Fulūs Tiflis(?) N.D.

Obv. Horse, left, within ornamental border.

Rev. تفلیس (?) Tiflis (?)

فلوس fulūs

ضرب struck.

Æ 25 mm. 8.16 gr.

PLATE X, 5.

Şafî I (1629-42)

Under this monarch, Perso-Georgian relations took a turn for the better. Şafî owed his throne to the prompt action of the Georgian prince Khusrau-Mîrzâ, the Dârûgha of Isfahan. Khusrau was rewarded with the throne of K'art'li and reigned as King Rostom from 1632 until his death in 1658.

58. 'Abbāsî Tiflis Date effaced.

AR 21 mm. 7.28-7.49 gr.

PLATE X, 6.

'Abbās II (1642-66)

During the reign of 'Abbās II, the aged Rostom died and was succeeded by his adopted son, Wakhtang V, of the Bagratids of

Mukhran. Wakhtang reigned under the title of Shahnavaz as a vassal of the Shahs until his death in 1676.

The silver coins in the ANS collection struck by 'Abbās II in Tiflis bear the following dates: A.H. 1060 (?), 1061, 1064, 1065, 1066, 1071, 1072, 1073, 1074, 1075 and 1076.

59. 'Abbāsī of five shāhī Tiflis A.H. 1069/1658-9 A.D. onwards.

℞ 27-31 mm. 9.01-9.11 gr.

PLATE X, 7.

60. 'Abbāsī Tiflis Before A.H. 1066/1655-6 A.D.

℞ 23-25 mm. 7.18-7.31 gr.

61. Maḥmādī¹ or half 'abbāsī Tiflis A.H. 1061/1650-51 A.D.

℞ 19 mm. 3.49 gr.

Şafī II, later Sulaymān I (1666-94)

Coins of this Shah struck at Tiflis are rarer than those of preceding and subsequent reigns. This may reflect the troubled situation resulting from the Persian policy of encouraging the rival prince Erekle I in his pretensions to the throne of K'art'li, at the expense of King Giorgi XI.

62. As Şafī II. 'Abbāsī. Tiflis. A.H. 1078/1667-8 A.D.

℞ 24 mm. 7.27 gr.

63. As Sulaymān I. 'Abbāsī. Tiflis. A.H. 1094, 109* and 1104

1682-93 A.D.

℞ 22-27 mm. 6.66-7.34 gr.

PLATE X, 8.

64. As Sulaymān I. Shāhī. Tiflis. Date effaced.

℞ 15 mm. 1.71 gr. (holed).

Shah Sulṭān Ḥusayn (1694-1722)

The reign of Sulṭān Ḥusayn, a prince of exceptional incompetence and superstition, ended in the conquest of Iran by the Afghan invader Maḥmūd and the collapse of the Safavi realm.

¹ Often called Maḥmūdī, but Rabino (*Coins of the Shahs*, p. 15) insists that the coin's name is an abbreviated form of "Muḥammadi."

The silver coinage of this reign falls, so far as the Tiflis mint is concerned, into three chronological groups, which will be treated in tabular form:

Group I, A.H. 1106–24/1694–1713 A.D.

- | | | | | |
|------------------------------|----|-----------|------------------------|--------------|
| 65. 'Abbāsī of five shāhī. | ⲁⲣ | 33 mm. | 9.09 gr. | PLATE XI, 1. |
| 66. 'Abbāsī. | ⲁⲣ | 23–27 mm. | 7.12–7.37 gr. | |
| 67. Maḥmadī or half 'abbāsī. | ⲁⲣ | 19–20 mm. | 3.57–3.64 gr. | |
| 68. Shāhī. | ⲁⲣ | 16 mm. | 1.98–2.07 gr (looped). | |

About A.H. 1127/1715 A.D., this series is superseded by an entirely distinct set of silver coinage, of oval planchet. A solitary round shāhī of A.H. 1128 in the ANS collection testifies however that the change was not altogether complete.

Group II, A.H. 1127–29/1715–17 A.D. (Oval planchet series).

- | | | | | |
|----------------------------|----|-----------|---------------|-------------|
| 69. 'Abbāsī of five shāhī. | ⲁⲣ | 27 mm. | 8.23–8.57 gr. | PLATE XI, 2 |
| 70. Maḥmadī. | ⲁⲣ | 20–21 mm. | 3.40–3.41 gr. | |
| 71. Shāhī. | ⲁⲣ | 19 mm. | 1.70 gr. | |

The last years of Sulṭān Ḥusayn's reign, A.H. 1130–34, saw a reversion to the conventional round planchet type of currency. Furthermore, the weights of each denomination were substantially reduced.¹

Group III, A.H. 1130–34/1717–22 A.D.

- | | | | | |
|--------------|----|-----------|---------------|--------------|
| 72. 'Abbāsī. | ⲁⲣ | 22–26 mm. | 5.15–5.38 gr. | PLATE XI, 3. |
| 73. Maḥmadī. | ⲁⲣ | 19 mm. | 2.64 gr. | |
| 74. Shāhī. | ⲁⲣ | 16 mm. | 1.32–1.35 gr. | |

¹ This accords with the statement in the *Tadhkirat al-mulūk*, ed. V. Minorsky, London, 1943, p. 60: "In the year when the former Shah was starting for Qazvin (A.H. 1129/1717 A.D.), the weight of an 'abbāsī was fixed at 7 dāngs," equivalent to one and one sixth mithqāls, or 5.38 grams. See also the editor's commentary, pp. 129–32.

IX. THE COINAGE OF THE HOUSE OF MUKHRAN

(1712-19)

During the early part of Shah Sulṭān Ḥusayn's reign, K'art'li was governed by Erekle I of the Bagratids of Kakhet'i. In 1703, however, the Mukhranian Bagratids were reinstated. King Giorgi XI of K'art'li was appointed Commander-in-Chief of the Persian army, and his nephew Wakhtang became Regent of Georgia. Giorgi and his successor, Kaikhusrau, were killed in the war against the Afghans of Qandahār, and in 1711 Wakhtang became King of K'art'li as Wakhtang VI. In the following year, he went to Isfahan to receive his investiture from the Shah, leaving his brother Simon as Regent in Tiflis.

Simon conceived the idea of reviving a Georgian national monetary series in copper, without of course challenging the standard Safavi silver coinage which was struck at the Shah's Tiflis mint. A convenient precedent was provided by the autonomous coppers struck in all important towns of the Persian empire, including Tiflis itself. The only specifically Georgian feature of the Regent Simon's fulūs, which are dated A.H. 1124/1712-13 A.D., consists of the Georgian mkhedruli characters ზ86, for "Simon," worked into the obverse design, which represents a dragon.¹

Autonomous coppers of the value of two to three qāzbeḡī,² representing a buffalo, but without Georgian inscription, were struck at Tiflis in the same year.³

All these coppers are known in general to the Georgians as "shavi p'uli," or black money, or simply as "p'uli," as distinct from "t'et'ri p'uli" or simply "t'et'ri," which means white or silver money. The most common denominations received Georgianized names, such as

¹ Bartholomaei, *Lettres numismatiques*, Pl. II, Nos. 11-12; Langlois, *Essai*, pp. 110-11, Pl. VIII, Nos. 10-11; W. H. Valentine, *Modern Copper Coins of the Muhammadan States*, pp. 118-19, Nos. 42-44.

² 1 qāzbeḡī = 5 dinars = $\frac{1}{10}$ shāhī = $\frac{1}{4}$ bistī.

³ Valentine, pp. 118-19, Nos. 45-46.

bisti, for bīstī (large copper, worth 20 dinars), shauri, for shāhī, and abazi, for ‘abbāsī, the two most widely used silver pieces.

As he refused to become a Muslim, Wakhtang was detained in Persia for several years. In 1717, the regency of Georgia was granted to his son Bak‘ar, who ruled the country for the next two years, until Wakhtang was allowed to return to Tiflis. Bak‘ar introduced an attractive peacock motif on his copper coinage, of which the ANS collection has four specimens. Their legends being partly effaced, these have been reconstructed, as in the case of later eighteenth century coppers, from specimens illustrated in the literature.

75. Fulūs Tiflis A.H. 1130/1717-18 A.D.

Obv. Peacock to right. In field, behind peacock’s tail, between tail and head, and in front of breast, in Georgian mkhedruli characters, $\delta\text{ქ}\overline{\text{რ}}$, for “Bak‘ar.” Groups of dots artistically disposed in field.

Rev.	تفليس	Tiflis
	ضرب ۱۱۳۰	Struck 1130
	فلوس	Fulūs.

Groups of dots in field.

Æ 23 mm. 7.89-8.07 gr.

PLATE XI, 4.

Barataev, *Num. fakty*, section IV, Pl. I, No. 1. The ANS collection’s specimens being much rubbed, this example is illustrated by one kindly lent by Professor E. Zygman.

76. Fulūs Tiflis A.H. 1130.

Obv. Peacock to left. In field, in front of peacock’s breast, between tail and head, and behind tail, in Georgian mkhedruli characters, $\delta\text{ქ}\overline{\text{რ}}$, for “Bak‘ar.” Groups of dots artistically disposed in field.

Rev. As in preceding example.

Æ 24 mm. 8.10 gr.

PLATE XI, 5 (Obv. only).

Barataev, *Num. fakty*, section IV, Pl. I, No. 4; Langlois, *Essai*, p. 115, No. 59; Valentine, pp. 118-19, No. 50.

77. Fulūs. Tiflis A.H. 1131/1718-19 A.D.

Obv. Peacock to right, etc., as in No. 75.

Rev. As in No. 75, but date: \ \ ٣ \ , A.H. 1131.

Æ 24 mm. 6.86 gr.

PLATE XI, 6.

Barataev, *Num. fakty*, section IV, Pl. I, Nos. 2-3; Langlois, *Essai*, p. 115, No. 58; Valentine, pp. 118-19, No. 47. These fulūs of about 7-8 gr. are of 2 qāzbeḡī = 2 Georgian p'uli. In the writer's possession is a fulūs of this type, value 1 qāzbeḡī = 1 Georgian p'uli, diameter 21 mm., weight 3.99 gr. (date effaced).

Of King Wakhtang VI himself, no coins are known, his residence at Tiflis from 1719 to 1723 being taken up with the conflicts and political complications resulting from the decadence and collapse of the Safavi monarchy.

X. GEORGIA UNDER OTTOMAN OCCUPATION

(1723–35)

Profiting by the fall of the Safavi empire, the Turkish Sultān Aḥmad III (1703–30) occupied Georgia and most of western Iran in 1723. King Wakhtang VI could not reconcile himself to the exigencies of the occupying power, and in 1724 retired to Russia. Nominal rule under the Turkish authorities was exercised for a time by Wakhtang's renegade brother Iese, who became a Sunnī with the title of Muṣṭafā Pāshā.¹

The Turks set up a mint at Tiflis as well as at Erivan, Ganja and Tabriz. As usual in Ottoman coins of this period, those struck at Tiflis under Aḥmad III at various dates from A.H. 1138/1725–6 A.D. until his abdication in 1143/1730 all bear Aḥmad's accession date 1115/1703. Likewise, those minted at Tiflis from 1730 until about 1735 by Aḥmad's nephew and successor Maḥmūd I (1730–54) all bear Maḥmūd's accession date A.H. 1143. The theory that the rosettes on many of these Ottoman coins conceal letters with numerical value, representing regnal years, is not now held tenable. It is more likely that they are the monograms of the mint-masters.

Interesting details on these Ottoman mints in Persia and Georgia are given in Ghālīb's work on the coinage of Turkey, where he quotes Küçük Chelebi-zāde, the continuator of the chronicle of Meḥmed Rāshid.² According to this account, early in the year A.H. 1138 (late 1725), the Seraskier in command at Tabriz, 'Abdullāh Pāshā Köprülü, acting on authority granted by the Imperial Court, opened a mint there and struck some trial gold pieces. These were sent to the central mint at Constantinople for approval, where they were scrutinized by the experts and found satisfactory as to weight and the fineness of the gold employed. Their workmanship, however, was found deficient ;

¹ Allen, *History of the Georgian People*, p. 187.

² The passages in question occur in the *Ta'rikh-i Rāshid*, 2nd. ed., VI, Stambul, 1282, pp. 306, 330. On these historians, see F. Babinger, *Die Geschichtsschreiber der Osmanen*, Leipzig, 1927, pp. 268–70 and 293–94.

the borders were uneven and the requisite ornamental motifs had been omitted. Dies were therefore cut at the Constantinople mint, bearing the mint-names of Tabriz, Erivan and Tiflis, and sent with a pattern piece of each denomination to the Ottoman commanders at these places, together with technical instructions.¹

Aḥmad III, Sultan of Turkey (1703–30)

78. Altūn or sequin funduqlī Tiflis Aḥmad III, accession: A.H. 1115/
1703 A.D.

Obv. Ṭughrā.

Rev. ضرب في Struck at

تفليس Tiflis

۱۱۱۵ 1115.

Above, ornamental monogram or rosette.

N 19 mm. 3.44 gr.

PLATE XI, 7.

Rabino, *Album*, Pl. XXIX, Nos. 747–48; S. Lane-Poole, *The Coins of the Turks in the British Museum*, London, 1883, No. 480; Ghālib, *op. cit.*, No. 645. Another kind of gold coin struck at Tiflis under Aḥmad III, with the “Sultān of Two Continents” formula, is described by Ghālib, No. 644. There are two examples of this latter type in the Garrett Collection in Baltimore.

Ghālib further mentions that the Ottoman silver coins minted in occupied cities of the Persian empire were specially adapted to conform in weight to the Safavi ‘abbāsī series. The onluq was made to correspond to the ‘abbāsī, the beshlik to the half ‘abbāsī or maḥ-madī.² This is fully borne out by the examples in the ANS collection, as will be seen by the descriptions given below. No doubt these silver coins were at first struck on planchets remaining in stock at these mints at the time of the Turkish occupation, more being made on the same standard as later required. In some instances, Safavi silver pieces were restruck with the new dies. (The ANS collection has an ‘abbāsī thus overstruck by the Turkish authorities at Tabriz).

¹ Ismā‘īl Ghālib, *Taqwīm-i Meskūkāt-i ‘Othmāniyyeh*, Constantinople, 1307, pp. 275–76.

² Ghālib, *op. cit.*, p. 282.

This explains the fact that the Ottoman onluq-‘abbāsī minted in Persia and Georgia regularly weigh about 1.1 gram less than their Constantinople prototype, thus equalling the weight of the ‘abbāsī of Shah Sulṭān Ḥusayn’s last period, i. e., 7 dāngs, or 5.38 grams. It also accounts for the existence of a half beshlik ($2\frac{1}{2}$ pāṛā) piece from these Turkish-occupied Persian mints, which is really a Persian shāhī. This denomination does not exist in the monetary series struck in Turkey proper.

79. Onluq-‘abbāsī Tiflis Accession: A.H. 1115.

Obv. سلطان البرين	Sulṭān of the Two Continents,
وخاقان البحرين	And Khāqān of the Two Seas,
السلطان بن	Sulṭān, son of
السلطان	The Sulṭān. (Lane-Poole’s “Formula B”).

Rev. Ṭughrā.

ضرب في	Struck at
تفليس	Tiflis
١١١٥	1115.

Æ 24–26 mm. 5.18–5.31 gr. (1 holed).

PLATE XI, 8.

Lane-Poole, *Coins of the Turks*, No. 481; Ghālīb, No. 446; Rabino, *Album*, Pl. XXX, No. 754.

80. Beshlik-mahmadī. Tiflis. Accession: A.H. 1115.

As preceding example.

Æ 19 mm. 2.64 gr.

81. $2\frac{1}{2}$ pāṛā or $\frac{1}{2}$ beshlik-shāhī. Tiflis. Accession: A.H. 1115.

As preceding example.

Æ 15 mm. 1.31 gr. (holed).

Ghālīb, No. 647.

Sultan Aḥmad III being deposed in 1730, money continued to be struck at Tiflis by his successor Maḥmūd I, until Tiflis was recaptured by the Persians under Nādir in 1735. The ANS collection does not contain examples of Maḥmūd's Tiflis series, of which however the British Museum and other collections have specimens.¹ The weight standard remained unchanged.

¹ Lane-Poole, *Coins of the Turks*, No. 539; Ghālīb, No. 705; Rabino, *Album*, Pl. XXX, No. 755.

XI. NĀDIR SHAH IN GEORGIA

(1735-47)

The phenomenal recovery of Persia under Ṭahmāsp-Qūli-Khān, the future Nādir Shah, culminated in the expulsion of the Turks from Western Iran. Tiflis was recaptured in 1735. The first coins struck there by the conqueror were in the name of the infant Safavi puppet, ‘Abbās III. The silver standard of Sulṭān Ḥusayn’s last period and of the Osmanli mints in Persia is maintained.

‘Abbās III (1731-36)

82. ‘Abbāsī Tiflis A.H. 1148/1735-6 A.D.

Standard type with distich:

“Throughout the universe by grace divine a golden money came,
Struck by God’s shadow, a new emperor, ‘Abbās the Third by name.”

℞ 24-25 mm. 5.30-5.32 gr.

PLATE XI, 9.

Similar to Poole, *Shahs of Persia*, Nos. 208-12; see Rabino, *Coins of the Shahs*, p. 45.

83. Maḥmadi Tiflis A.H. 1148.

As preceding example.

℞ 18 mm. 2.66 gr.

Nādir Shah (1736-47)

In 1736, Persia’s leader officially assumed the royal title, under the name of Nādir Shah. An important and varied series of silver money was struck at Tiflis in his name.

84. ‘Abbāsī Tiflis A.H. 1148/1736 A.D.

Obv. First distich:

“By gold in all the earth his kingship shall be famed,
Phoenix (Nādir) of Persia’s land, world-conqueror, sovereign named.”¹

¹ Translation from Poole, *Shahs of Persia*, p. lxxxv.

Rev. Accession chronogram, composed by the Abjad system:

بتاريخ الخير فيما وقع

In the year "Whatever happens is best," i.e. A.H. 1148.¹ (Arranged in Ṭughrā-form monogram).

تفليس

Tiflis

١١ ضرب ٨

Struck in 1148.

R 26 mm. 5.32 gr.

PLATE XII, 1.

85. 'Abbāsī Tiflis A.H. 1149/1736-7 A.D.

Obv. First distich. Below:

تفليس

Tiflis

١١٤٩

1149.

Rev. Accession chronogram, but arranged differently from preceding example.

R 24 mm. 5.24 gr.

PLATE XII, 2.

86. 'Abbāsī Tiflis A.H. 1150/1737-8 A.D. (Two varieties)

Obv. a) As preceding example. Beneath, date: A.H. 1149.²

b) As preceding example, but date removed.

Rev.

Accession chronogram:

مانوس الخير فيما وقع

The date of the enthronement of honoured prosperity: "Whatever happens is best," i.e., accession date, A.H. 1148.

ميمنت

تاريخ جلوس

١١٥٠

1150 (date of striking).

R 24-26 mm. 4.49-4.59 gr.

PLATE XII, 3.

Rabino, *Album*, Pl. XIII, No. 322.

¹ See the explanation of this chronogram in O. Codrington, *Manual of Muslim Numismatics*, London, 1904, p. 115.

² In this example, the mint-master had neglected to make a new die for the obverse, with the result that mutually contradictory dates appear on the two sides.

The above belong by their standard, if not by their design, to the new currency series introduced by Nādir in the second year of his reign. The weight of the ‘abbāsī was reduced from seven to six dāngs, i.e. one mithqāl, or 4.64 grams. Coins of 300 dīnārs (six shāhī) and 500 dīnārs (nādirī) weighed $1\frac{1}{2}$ and $2\frac{1}{2}$ mithqāls respectively.¹

87. Siṣad-dīnār (6 shāhī) Tiflis A.H. 1150/1737–8 A.D.

Obv. Within circle:

نادر

Nādir

السلطان

The Sulṭān.

ن

Outer linear circle and border of dots.

Rev. الله

May God

خلد

Perpetuate

ملکه تفلیس

His reign; Tiflis,

ضرب ۱۱۵۰

Struck 1150.

Æ 20–21 mm. 6.79–6.90 gr.

PLATE XII, 4.

Poole, *Shahs of Persia*, No. 226.

88. Siṣad-dīnār Tiflis A.H. 1151/1738–9 A.D.

As preceding example, but date \ \ ۵ \, A.H. 1151.

Æ 19–20 mm. 6.51–6.81 gr.

Rabino, *Album*, No. 374.

89. Nādirī (10 shāhī) Tiflis A.H. 1152/1739–40 A.D.

Obv. Second distich:

“Over Sulṭāns of earth is Sulṭān,
Nādir, Shah of Shahs, Ṣaḥibkerān.”²

¹ See the table in Rabino, *Coins of the Shahs*, p. 52.

² Translation from Poole, *Shahs of Persia*, p. lxxxv.

Rev. Within circle:

۱۱۵۲

1152

تفليس

Tiflis

ضرب

Struck.

℞ 23–26 mm. 11.39–11.58 gr.

PLATE XII, 5.

Poole, *Shahs of Persia*, No. 250; Rabino, *Album*, Pl. XIV, No. 349.

90. Sīṣad-dīnār Tiflis A.H. 1152.

Similar to Nos. 87 and 88, but date: ۱۱۵۲, A.H. 1152.

℞ 17 mm. 6.85–6.88 gr.

PLATE XII, 6.

91. Nādirī Tiflis A.H. 1159/1746–7 A.D.

Similar to No. 89, but date: ۱۱۵۹, A.H. 1159.

℞ 24 mm. 11.29 gr.

XII. THE LAST BAGRATIDS

(1744–1800)

In recognition of their services to the Persian cause, Nādir bestowed in 1744 the throne of K'art'li on T'eimuraz of the Bagratids of Kakhet'i, and Kakhet'i on T'eimuraz's son Erekle.

Three years later, in 1747, the Shah was assassinated, and Persia relapsed into a state of anarchy.

T'eimuraz II (1744–62)

Soon after his accession, T'eimuraz began to strike copper in his name alone, and also, a little later, jointly with that of his son Erekle.¹

92. Fulūs (p'uli) Tiflis [c. A.H. 1160/1747 A.D.]

Obv. Lion (? tiger) to left. In field, in Georgian mkhedruli characters: ომრზ: T'MRZ, for T'eimuraz.

Rev. ضرب

Struck

فلوس

Fulūs

تفليس

Tiflis.

[Date effaced]

Æ 20 mm. 4.27 gr.

PLATE XII, 7.

Barataev, *Num. fakty*, section IV, Pl. I; Langlois, *Essai*, p. 118, No. 61, Pl. VIII, No. 14; Valentine, pp. 118–19, No. 51.

Although Georgia became virtually independent on the death of Nādir Shah, considerations of economic and political expediency

¹ The latter series, showing a falcon attacking a heron and dated A.H. 1165–69/1751–56 A.D., is not represented in the ANS collection. See Barataev, *Num. fakty*, section IV, Pl. I; Langlois, *Essai*, pp. 118–19, Pl. VIII, No. 17; Valentine, pp. 118–19, No. 52.

deterred T'eimuraz from immediately striking silver in his own name. The Chronicle of Papuna Orbeliani relates that Nādir's nephew, Shah Sulṭān Ibrāhīm (1748-49), who was anxious to cement an alliance with the Georgians, sent a mint-master to Tiflis, where gold and silver pieces were struck in Ibrāhīm's name.¹ Ibrāhīm was soon afterwards overthrown and killed by Nādir's grandson, Shāhrukh.

93. 'Abbāsī Tiflis A.H. 1162/1748-9 A.D.

Obv. First distich:

"By grace divine he struck a coinage of imperial worth,
Shah Ibrāhīm, his gold sun-like illumining the earth."²

Rev. Within linear circle:

۱۱۶۲

1162

تفلیس

Tiflis

ضرب

Struck.

R 20-21 mm. 4.51-4.57 gr.

PLATE XII, 8.

94. 'Abbāsī Tiflis A.H. 1162.

Obv. Second distich:

"The sun on gold and silver minting set in shame,
Till in the coin of Ibrāhīm it found new fame."³

Rev. As preceding example, but in one instance, outer border of dots is enclosed in double linear circle.

R 20-21 mm. 4.55-4.57 gr.

PLATE XII, 9.

95. Shāhī Tiflis A.H. 1162.

Obv. ابرا

Ibrā-

هیم

hīm

سلطان

Sulṭān.

¹ M.-F. Brosset, *Histoire de la Géorgie*, II, 2, p. 139; Karst, *Précis de numismatique géorgienne*, p. 20; Rabino, *Coins of the Shahs*, p. 54.

² Translation from Poole, *Shahs of Persia*, p. lxxxv.

³ Rabino, *Coins of the Shahs*, p. 54. Translated by Dr. G. C. Miles, versified by D.M.L.

Rev. Mint-date formula, as preceding examples.

℞ 14 mm. 1.10 gr. (holed).

PLATE XII, 10.

Poole, *Shahs of Persia*, No. 287; Rabino, *Album*, Pl. XVI, No. 405.

With judicious impartiality, mingled with political foresight, the Tiflis mint had also begun striking silver in the name of Ibrāhīm's rival, Shāhrukh. The earliest examples were struck in the year of Nādir's death, A.H. 1160/1747 A.D., and thus antedate the coins of Ibrāhīm. The series continued until about A.H. 1170/1756-7 A.D., by which time Shāhrukh's authority no longer extended outside Khorāsān.

96. Shāhī Tiflis A.H. 1160/1747 A.D. (Two varieties)

Obv. Shī'a pious formula, surrounded in one case by the names of the Twelve Imams, in the other, occupying the whole obverse.

Rev. Distich:

"Throughout the world he struck his coin by grace divine,
Shāh Rukh the watchful hound of 'Alī Rizā's shrine."¹

Beneath:

تفليس ۱۱۶

116(0) Tiflis

℞ 13-14 mm. 1.11-1.16 gr. (1 holed).

Poole, *Shahs of Persia*, Nos. 306-7.

97. 'Abbāsī Tiflis A.H. 1162-1170/1748-57 A.D. (Five examples)

Obv. Shī'a pious formula, surrounded in four examples (A.H. 1162, 1163, 1164, 1170) by the names of the Twelve Imams.

Rev. Distich of Shāhrukh. Beneath, mint-date formulae: A.H. 1162, 1163, 1164, 1169, 1170.

℞ 20-24 mm. 4.50-4.62 gr.

PLATE XIII, 1.

Poole, *Shahs of Persia*, No. 315; Rabino, *Album*, Pl. XVI, Nos. 419-20.

By 1752, T'eimuraz and Erekle had vindicated Georgia's newfound independence in several hard-won battles against competing Persian pretenders. The Georgian princes now judged the time ripe for an issue of silver coinage of independent type for local circulation, and

¹ Poole, *Shahs of Persia*, p. lxxxvi.

especially for paying the mercenaries in their army. A design was evolved which would be acceptable to Muslim and Christian alike, bearing an unexceptionable Qur'ānic formula, but without mention of either Muḥammad's name or those of the Georgian princes.

The standard of these anonymous Tiflis abazi ('abbāsī) was now reduced from six dāngs to four (i.e. from one mithqāl to 2/3). An official document of 1787 refers to the "abazi of 4 dangi from the new mint."¹ Four dangi or dāngs is equivalent to 3.09 grams. This standard was adhered to until the end of the Bagratid monarchy.

98. Abazi ('abbāsī) Tiflis A.H. 1166/1752-3 A.D.

Obv.	الحمد لله	Praise to God
	رب	Lord of
	العالمين	The Universe (Qur'ān, I, i).

Ornamental foliage motifs and clusters of dots.
Linear border.

Rev. Within looped ornamental border:

١١٦٦	1166
تفليس	Tiflis
ضرب	Struck.

Double linear border, with circle of large dots between the two linear circles.

℞ 19 mm. 3.02 gr.

PLATE XIII, 2.

Langlois, *Essai*, p. 117, Pl. VIII, No. 15.

Erekle II (1762-98)

The venerable King T'eimuraz went in 1760 on a fruitless mission to St. Petersburg to seek military and economic aid from the Empress Elizabeth Petrovna. He died in Russia on his return journey, and was

¹ S. Kakabadze, in *Saistorio Moambe*, II, 1924, p. 279.

succeeded by his son Erekle. Until then, T'eimuraz had reigned in K'art'li and Erekle at T'elavi in Kakhet'i, though the two kings usually worked in close collaboration. Erekle now ruled at Tiflis over the two east Georgian kingdoms reunited.

From a military standpoint, Erekle's reign was a glorious one, though Georgia had much to suffer from the depredations of the Lezghis of Daghestan and their Turkish allies. The economic situation became increasingly critical. In 1783, Erekle signed a treaty of alliance and protectorate with Russia. This brought him little advantage, but provoked the invasion of Āghā Muḥammad Khān Qājār, who sacked Tiflis in 1795. Erekle died at T'elavi in 1798.

With the help of Greek artisans from Anatolia, gold, silver and copper mines were operated at Akhtala in the south of K'art'li. The ravages of 'Omar Khan of the Avars in 1785, however, resulted in the slaughter of many of the skilled workers and the destruction of most of the mining and refining equipment.

The silver minted at Tiflis under Erekle forms an extensive but uniform series. The Tiflis mint was farmed out to an Armenian contractor. In general, the silver coinage was modelled on the type evolved by T'eimuraz II in 1752, and described above (No. 98). In the design of the abazi (the Georgian orthography of 'abbāsī), the only important innovation is the addition of the formula *يا كريم*, O [God the] All-Bountiful, which appears in a small cartouche at the head of the reverse.

Use of this formula constitutes a complimentary play on the name of Kerīm Khān Zand, regent of Persia (1759–79), on whose coins it commonly appears. This does not imply any political dependence of Erekle on Kerīm Khān, but is rather a polite gesture of conciliation, calculated no doubt to make the Georgian currency acceptable throughout Persia. The formula became stereotyped, and still appears on Georgian abazi twenty years after Kerīm's death.

The date formula on these Georgian abazi either appears at the top of the reverse inscription, as on the abazi of T'eimuraz II, or else is worked more or less haphazardly into the centre or lower area.¹

¹ Langlois, *Essai*, pp. 121–22, Nos. 64–66. (Langlois' No. 63 is a rare double-abazi of similar type.); Poole, *Shahs of Persia*, Nos. 366, 373, 376, 391–93; Rabino, *Album*, Pl. XVIII, No. 464, Pl. XIX, Nos. 495–96.

The half-abazi, often known in Georgia by the Perso-Turkish name of "uzalt'uni," for yūz-āltūn, a hundred dinārs, bears on the obverse the formula *یاکرم* interlaced, occupying the whole area, within an ornamented border. The reverse has the mint-date formula, within a linear circle.¹

99. Anonymous silver of Erekle II Tiflis.

YEAR	DENOMINATION	DIAMETER	WEIGHT
A.H. 1183/1769-70 A.D.	Abazi	20 mm.	3.07 gr.
			PLATE XIII, 3.
	Half-abazi	17 mm.	1.36 gr. (holed)
1190	Abazi	22 mm.	2.83 gr.
1193	Abazi	22 mm.	3.04 gr.
	Half-abazi	15 mm.	1.39 gr. (holed)
1194	Abazi	20 mm.	2.91 gr.
1195	Abazi	18 mm.	2.84-2.96 gr.
1196	Abazi	20 mm.	2.80 gr. (holed)
1197	Abazi	20 mm.	2.81 gr.
1198	Abazi	19 mm.	2.85 gr. (holed)
1201	Abazi	19 mm.	2.93-2.96 gr.
1202	Abazi	20 mm.	2.82 gr.
1203	Abazi	19 mm.	2.95 gr.
1204	Abazi	21 mm.	2.91 gr.
1205	Abazi	21-22 mm.	2.94-3.01 gr.
			PLATE XIII, 4.
1206	Abazi	22 mm.	2.94 gr.
	Half-abazi	15 mm.	1.19 gr. (holed)
			PLATE XIII, 5.
1207	Abazi	19 mm.	2.26-2.82 gr.
1209	Abazi	19-20 mm.	2.86-3.01 gr.
1210	Abazi	18 mm.	2.67 gr.
A.H. 1211/1796-7 A.D.	Abazi	19-20 mm.	2.85-2.93 gr.
			PLATE XIII, 6.
	Half-abazi	16 mm.	1.46 gr.

The State Coin Cabinet in Munich has specimens bearing the following additional dates: A.H. 1180, 1182, 1184, 1192, 1199, 1208 and 1212. Langlois lists several other years. This proves that the

¹ Langlois, *Essai*, p. 122, No. 67; Poole, *Shahs of Persia*, Nos. 367, 381; Rabino, *Album*, Pl. XIX, Nos. 476, 498.

uniform Tiflis silver series originated in or about the year 1180/1766-67, and was minted continuously thereafter.

In his copper coinage, which was intended mainly for local circulation within Georgia, Erekle allowed himself far more liberty. Its iconography gives interesting evidence of Georgia's increasingly stressed Russian orientation.

According to Erekle's grandson, T'eimuraz Batonishvili, copper or "shavi p'uli" ("black money," cf. Persian "pūl-i-siyāh") was struck by Erekle in four denominations:

Bisti (bistī), worth 4 p'uli or 4 qāzbeḡi or 20 dīnārs
Double p'uli
P'uli
Half-p'uli.¹

The ANS collection has specimens of each denomination except the last, which seems to be very uncommon.

100. Double p'uli Tiflis A.H. 1179/1765-6 A.D.

Obv. Regal insignia: Above, royal crown. Beneath, scales of justice. Between scales, globus cruciger. Two swords disposed to left and right of crown.

Rev. Above, within ornamental frame, in Georgian ecclesiastical majuscules: **ქ. ზ. ბ.**, surmounted by sign of abbreviation, "Erekle." Beneath frame, to left and right, two stars. In centre, horizontal bar, below which:

١١٧٩ تڤليس

Tiflis 1179


ضرب

Struck

Æ 23-26 mm. 8.0-8.51 gr.

PLATE XIII, 7-9.

Barataev, *Num. fakty*, section IV, Pl. II, Nos. 1-2; Langlois, *Essai*, p. 123, No. 69; Valentine, pp. 120-21, No. 57. None of the specimens illustrated in the literature shows the final digit "9" of the date, which appears in isolation to the right of the mint-name "Tiflis," and is clearly discernible on two of the specimens in the ANS collection.

Counterstamped on obv. or rev. with Erekle's monogram in square incuse: 

¹ Karst, *Précis de numismatique géorgienne*, p. 28.

101. P'uli Tiflis A.H. 117* (? 1179).

Design as previous example. No counterstamp.

Æ 21 mm. 4.76 gr.

PLATE XIII, 10.

102. Double p'uli Tiflis A.H. 119* (? 1190)/1776-7 A.D. ?

Obv. Fish between two leaf designs. Double linear border, with circle of dots between the two linear circles.

Rev. In Georgian ecclesiastical majuscules: ჟ ლ ზ surmounted by sign of abbreviation, for "Erekle."

Below: تفليس Tiflis

ضرب Struck

١١٩* 119*

Border as obverse.

Æ 25 mm. 11.18 gr.

PLATE XIV, 1.

Barataev, *Num. fakty*, section IV, Pl. II, Nos. 3-4; Langlois, *Essai*, pp. 122-23, No. 68. The last digit on our specimen is effaced. Langlois states that examples of this type are known of most dates between A.H. 1179 and 1206/1765-1792 A.D., but the present writer has seen only the dates A.H. 1190 (specimen in the Chase National Bank Museum of Moneys of the World) and 119*.

103. P'uli Tiflis A.H. 11**

As previous example. Oval planchet.

Æ 24 mm. 5.90-5.94 gr.

PLATE XIV, 2.

104. Bisti Tiflis A.H. 1201 }
A.D. 1787 } Dated by both systems

Obv. Double-headed eagle, holding to left, sceptre, to right, globus cruciger. Below, in European numerals, date: 1787 (effaced on one specimen).

Rev. Erekle's name in Georgian ecclesiastical majuscules, with mint-date formula in Arabic characters below: Tiflis, 1201/1786-7 A.D.

Æ 27 mm. 16.62 gr.

8 Lang

Barataev, *Num. fakty*, section IV, Pl. II, No. 6; Langlois, *Essai*, p. 124, No. 70.

The Russian eagle on this and the following examples reflects Erekle's acceptance of Imperial suzerainty by the Treaty of 1783.

105. Double p'uli Tiflis A.H. 1201 } *sic.*
 A.D. 1781 }

As previous example, but date on obverse 1781.

Æ 24-25 mm. 8.71-8.85 gr.

PLATE XIV, 3.

Barataev, *Num. fakty*, section IV, Pl. II, No. 5.

As Langlois justly observes, the Hijra and Christian dates on the two sides of this series frequently fail to correspond, as a result, no doubt, of the die-engravers' faulty knowledge of comparative chronology.

106. Bisti Tiflis A.H. 1210 }
 A.D. 1796 }

Obv. Single-headed eagle, holding to right sceptre and to left, globus cruciger.

Below, in European numerals, date: 1796.

Rev. Erekle's name in Georgian ecclesiastical majuscules, with mint-date formula below: Tiflis, 1210/1795-6 A.D.

Æ 27-29 mm. 19.49-22.32 gr.

PLATE XIV, 4.

Barataev, *Num. fakty*, section IV, Pl. II, Nos. 7-8; Langlois, *Essai*, pp. 125-26, No. 72.

On one example, Erekle's monogram as counterstamp in square incuse.

A few specimens of the single-headed eagle type, but with reverse copied from the silver abazi of Erekle's reign, were struck in gold.¹ These were not in general circulation, but were for presentation to the Russian court.

¹ Langlois, *Essai*, p. 125; Karst, *Précis de numismatique géorgienne*, p. 57.

Giorgi XII (1798–1800)

When he came to the throne, Giorgi was already a sick man. The threat of Persian and Lezghian invasion, coupled with hostile intrigues by rival members of the royal family, compelled him to place the kingdom of K'art'lo-Kakhet'i under direct Russian rule. The proviso was made that the Bagratid dynasty was to be maintained as hereditary Viceroys under the Tsar. After Giorgi's death in December, 1800, his eldest son David governed as nominal Regent for a few months. By the manifesto of September 12th., 1801, the Emperor Alexander I finally abolished the east Georgian monarchy and removed the Bagratids from power.

The annexation of the western Georgian kingdom of Imeret'i followed in 1810.

Giorgi XII's silver coinage is simply a continuation of the standard anonymous series minted at Tiflis over the previous half century. The standard of the abazi was maintained at four dangs as before.

107. Abazi Tiflis A.H. 1213/1798–9 A.D.

Obv. Qur'ān, I. i. (As No. 98)

Rev. Mint-date formula: Tiflis, 1213.

Above, in cartouche, Arabic pious exclamation: "O [God the] All-Bountiful."

Æ 18 mm. 2.95 gr. (holed).

PLATE XIV, 5.

Langlois, *Essai*, p. 126, No. 73; Rabino, *Album*, Pl. XIX, No. 497.

108. Half-abazi (? shauri) Tiflis A.H. 1213.

Obv. Interlaced Arabic formula: "O [God the] All-Bountiful".

Rev. Mint-date formula: Tiflis, 1213.

Æ 18 mm. 0.74 gr.

PLATE XIV, 6.

Langlois, *Essai*, p. 126, No. 74. The ANS specimen is of base silver and crude workmanship, and, if intended for a half-abazi, much under weight. It may well be a counterfeit.

109. Double p'uli Tiflis A.H. 1213.

Obv. Fish between two leaf designs.

8*

Rev. In Georgian ecclesiastical majuscules: **ⴗⴓⴑⴓⴗ**, Giorgi.

Below, mint-date formula: Tiflis, 1213.

Æ 21–22 mm. 9.04–9.84 gr.

PLATE XIV, 7.

Barataev, *Num. fakty*, section IV, Pl. II, Nos. 11–12; Langlois, *Essai*, pp. 124–27, No. 75.

110. Puli Tiflis A.H. 1213.

Design as preceding example.

Æ 20 mm. 4.43 gr.

David Batonishvili, Regent (1801).

Giorgi's son, Prince David, had time to issue only one type of copper coin before the kingdom was absorbed by Russia. Its design revives the peacock motif of Bak'ar's reign.¹ Since, however, the existence of this type is attested by only one specimen, from the Barataev collection, its attribution is subject to caution, especially as the mint-name "Tiflis" is not clearly legible.

¹ See Langlois, *Essai*, pp. 127–28, Pl. IX, No. 10.

XIII. THE RUSSO-GEORGIAN SERIES

(1804-34)

Following the occupation of Georgia, the Russian authorities were soon inconvenienced by the scarcity of money in circulation. It was not found feasible immediately to replace the Georgian monetary system and that of the neighbouring Transcaucasian Khanates by that of Russia. Moreover, the Emperor Alexander felt that the introduction of a distinctive coinage for Georgia would be a concession to the people's national susceptibility and help to reconcile them to their loss of sovereignty. Preparations were made for the reorganization of the old Tiflis mint under Russian control.

Designs for the new coinage were approved by the Emperor in October, 1802. The general direction of the Tiflis mint was entrusted to Count Apollo Musin-Pushkin, the head of the mining department of the Georgian administration.¹ The mint was officially opened on September 15th, 1804, under the auspices of the Commander-in-Chief, Prince Tsitsianov. A commemorative medal struck for the occasion shows the Russian eagle soaring towards Iberia and Colchis, bearing in its claws the Golden Fleece, with the legend: "Pokhishchennoe Vozvrashchaet," i. e., "It restores what was stolen."²

Details about the staffing of the mint, its budget and technical problems involved in its operation are contained in the important collection of official documents published by the Grand-Duke Georgy Mikhailovich.

The silver standard was fixed at 88/96, or 916²/₃ fine. The weights of the various denominations were established as follows:

¹ Grand-Duke Georgy Mikhailovich, *Russkie monety chekanennyye dlya Prussii (1759-1762), Gruzii (1804-1833), Pol'shi (1815-1841), i Finlyandii (1864-1890)*, St. Petersburg, 1893, section II, pp. 6-7.

² Karst, *Précis de numismatique géorgienne*, p. 58, Pl. IX.

SILVER

Double abazi:	1 zolotnik, 46 doli.	6.3 gr.
Abazi:	71 doli.	3.15 gr.
Half-abazi:	35½ doli.	1.57 gr.

COPPER

Bisti:	3 zolotniks, 62 doli.	15.55 gr.
Double p'uli:	1 zolotnik, 79 doli.	7.77 gr.
P'uli:	87½ doli.	3.88 gr.

(The Russian pound = 96 zolotniks = 9216 doli
 1 zolotnik = 96 doli = 4.266 gr.)

Although somewhat lighter in weight, the abazi was officially equated with the Russian 20 copeck silver piece, and the other denominations in proportion.

The copper series was struck until 1810 only.

Each denomination bears at the head of the reverse a letter of the Georgian mkhedruli alphabet, having a corresponding numerical value computed in terms of the Persian dīnār:

SILVER

Double abazi:	letter	ჟ, U = 400
Abazi:		ბ, S = 200
Half-abazi:		გ, R = 100

COPPER

Bisti:	letter	დ, K = 20
Double p'uli:		ე, I = 10
P'uli:		ვ, E = 5

The following table illustrates the two-fold integration of the new Russo-Georgian currency into the Russian and Persian monetary scales:

GEORGIAN	PERSIAN	VALUE	
		IN DĪNĀRS	RUSSIAN
T'umani	Tūmān	10,000	10 roubles (Imperial).
Manet'i or	Mīn-āltūn or	1,000	1 rouble
Minalt'uni	Hazār dīnār		
(5 abazi)			
Marchili	Shishṣad dīnār	600	60 copecks
Double abazi	Dū 'abbāsī	400	40 copecks
Abazi or t'elt'i	'Abbāsī	200	20 copecks
Half-abazi,	Maḥmadī or		
Uzalt'uni or	Yūz-āltūn	100	10 copecks
T'angiri			
Shauri	Shāhī	50	5 copecks
Bisti	Bistī	20	2 copecks
Double p'uli	Fulūs of 2 qāzbeḡī	10	1 copeck
P'uli	Qāzbeḡī	5	½ copeck or denga. ¹

The fact that the numerical values of the Georgian characters inscribed on the various denominations of the Russo-Georgian series corresponded to their value on the Persian dīnār scale was pointed out a century ago by M.-F. Brosset.² This inescapable truth has since been obscured by patriotic Georgian historians, unwilling it would seem to accept this evidence of Georgia's dependence on the Persian monetary system. A. A. Tsagareli, for example, thought that the numerical values expressed by the letters on the Russo-Georgian coins were in Georgian p'uli.³ This is obviously wrong when it is remembered that the single p'uli, worth five Persian dīnārs, bears the letter "E", value 5, and not the equivalent of the figure 1, which would be the letter "A".

More recently, Professor I. Javakhishvili lent his authority to an equally untenable theory, which gained currency by being summarized in Dr. Joseph Karst's excellent summary of Georgian numis-

¹ Much of this information is taken from Rabino, *Coins of the Shahs*, pp. 12-18 and Table II. It should be noted that this dīnār scale continued in operation in Persia until 1932, when it was edicted that the dīnār was to be the one thousandth part of the tūmān.

² *Introduction à l'Histoire de la Géorgie*, pp. CLXXXVI-CLXXXVIII.

³ Grand-Duke Georgy Mikhailovich, *Russkie monety . . . dlya Gruzii*, p. III.

matic history.¹ According to Javakhishvili, the basis of the Georgian monetary system was not the *dinār*, but half a drachm weight of copper. This theory is based on a remark of Dr. J. G. Güldenstädt of the Russian Academy of Sciences, who visited Georgia in 1771 and observed that the Georgian copper *p'uli* weighed $2\frac{1}{2}$ drachms. As the *p'uli* in the Russo-Georgian series bore the letter "E" for 5, Javakhishvili assumed that the basic unit was a fifth of this coin's weight in copper (i.e. $\frac{1}{5}$ drachm or 1.86 gr.)

The objections to this system may be summarized as follows:

1) It confuses the issues of weight and denomination. No permanent monetary system could have been established in Georgia on a weight basis, as the weights of the various denominations fluctuated from time to time to suit the fiscal policy of the moment. One could as well weigh a U.S. cent of 1953 and conclude that the American monetary system was permanently based on the unit of 3.05 grams of copper.

2) Georgia was on a silver and not a copper standard. Even when silver ceased to be coined during the silver famine of the 12th and early 13th centuries, Queen T'amar's coppers are labelled "*Vetskhli*," i.e. silver pieces, confirming that they were minted to take the place of silver.

3) Professor Javakhishvili's theory ignores the fact that the very names of many Georgian units of currency are taken from the Persian. The large copper, with its value expressed by the letter "K", for 20, is called *bisti* in Georgian because it corresponds to the Persian *bistī*, which signifies "coin of 20," so called because it was worth 20 *dinārs*. "*Uzalt'uni*," the Georgian word for a half-abazi, labelled in the Russo-Georgian series with the letter "R", equalling 100, is the Perso-Turkish *yüz-āltūn*, which means one hundred *āltūn* or *dinārs*. Georgian acquaintances confirm that this term is still used in popular parlance, and that the phrase "two abazi and an *uzalt'uni*"

¹ I. Javakhishvili, "*K'art'uli sap'as-sazomebis mtsodneoba anu numizmatika*," in the journal *Chveni metsniereba*, Tiflis, 1924; Karst, *Précis de numismatique géorgienne*, pp. 21-23. It may be observed in parentheses that Professor Javakhishvili's contributions in the numismatic field, which lay outside his main interests, were not wholly happy. It is to be regretted that he failed to see the value of Pakhomov's *Monety Gruzii*, to which he devoted some ten pages of largely unjustified adverse criticism in the journal *Khristiansky Vostok* for 1912.

will be heard in Georgia to this day, instead of the term fifty copecks or half a rouble being employed. A rouble, furthermore, was called "minalt'uni" in Georgian because min-ältün or bin-ältün was used in Safavi Persia as a synonym for hazār dīnār, or one thousand dīnārs or ältün, equivalent to one Russian rouble.¹

4) Professor Javakhishvili's calculation of the weight of the Georgian p'uli seems inaccurate in itself. The German or apothecary's drachm which Güldenstädt, a German doctor and chemist, was using in his computation weighs 3.73 grams. Güldenstädt's "two and a half drachms" were thus equivalent to 9.32 grams. This is the weight, not of the single, but of the double p'uli of Erekle's reign, as may be seen from the examples described in the previous chapter. The double p'uli in the Russo-Georgian series bore the letter "I" for 10. The theoretical single unit of Georgian currency, which Javakhishvili refused to recognize as the dīnār, weighed about 1770 not a half, but a quarter drachm of copper (i.e. 0.93 gr.)

Professor Javakhishvili's system was challenged by S. Kakabadze in the Tiflis *Bulletin Historique*.² It is based on a series of misconceptions, and must be set aside in favour of the interpretation proposed by Brosset, based on the Persian dīnār scale to which the Georgian currency had been linked during the seventeenth and eighteenth centuries.³

Count Musin-Pushkin intended at one point that the unit of the copper series should indeed be the Georgian p'uli itself, and gave instructions that the bisti should be numbered 4, the double p'uli 2, and the single p'uli 1.⁴ This system was not put into operation.

There exists a rare trial proof of the 1804 abazi struck at the Imperial St. Petersburg mint with the letter ჰ, "K", numerical value 20, instead of "S" for 200.⁵ This represents an abortive attempt to express the coin's value in copecks, and was not proceeded with.

¹ See Rabino, *Coins of the Shahs*, p. 42, and Table IV: Value Iranian coins would thus have in Foreign currencies.

² *Saistorio Moambe*, II, 1924, pp. 282-88.

³ That the Georgian local accounting system was based well into the 19th century on this scale is clearly shown by the table of monetary equivalents of letters of the Georgian alphabet given by the Georgian lexicographer D. Chubinov (Chubinashvili) in his *Dictionnaire Géorgien-Russe-Français*, St. Petersburg, 1840, p. III.

⁴ Grand-Duke Georgy Mikhailovich, p. 8.

⁵ Grand-Duke Georgy Mikhailovich, No. 2.

The Russian letters which appear at the foot of the obverse of the silver issue only are the initials of the mint-masters at Tiflis, viz:

П. З. — Peter Zaytsev	(1804–1806)
А. К. — Aleksey Karpinsky	(1806–1824)
А. Т. — Alexander Trifonov	(1810–1831)
В. К. — Vasily Kleymenov	(1831–1833) ¹

The Grand-Duke Georgy Mikhailovich published statistics showing the quantities of each denomination struck each year. These particulars are summarized in the *Courrier Numismatique* for March, 1932, No. 27.

The silver pieces have oblique braided (slant-milled) edges. The copper are milled in both directions, forming a lattice pattern.²

The dates are indicated as follows:

1804	ჩყდ	1819	ჩყიო
1805	ჩყე	1820	ჩყკ
1806	ჩყვ	1821	ჩყკა
1807	ჩყზ	1822	ჩყკბ
1808	ჩყფ	1823	ჩყკჰ
1809	ჩყთ	1824	ჩყკდ
1810	ჩყი	1826	ჩყკკ
1811	ჩყია	1827	ჩყკზ
1812	ჩყიბ	1828	ჩყკფ
1813	ჩყივ	1829	ჩყკთ
1814	ჩყიდ	1830	ჩყელ
1815	ჩყიე	1831	ჩყელა
1816	ჩყივ	1832	ჩყელბ
1817	ჩყიზ	1833	ჩყელჰ
1818	ჩყიფ		

¹ Grand-Duke Georgy Mikhailovich, pp. 45–48; F. Kraumann, "Gruzinské mince za carského Ruska," in *Numismatické Listy*, III, No. 3, Prague, 1948, p. 44; *Courrier numismatique*, VI, No. 27, 1932, pp. 12–13.

² Cf. D. Elliott Smith, "Coin Edges," in *The Numismatist*, December, 1943, pp. 998–1002.

The examples of the series in the ANS collection are as follows:

111. Double abazi Tiflis

Obv. ტფილისი Tp'ilisi (Tiflis)
Above, mural crown. Below, palm and olive branch, crossed *en sautoir*.

Rev. უ U = 400
ქართული K'art'uli (Georgian)
თეთრი t'et'ri (white, i.e. silver)

Date: 1804, 1809, 1821, 1827, 1830, 1831, 1833.

Initials of Russian mint-master.

R 23-25 mm. 5.76-6.46 gr. PLATE XV, 1-2.

A complete set of illustrations is given in the Grand-Duke Georgy Mikhailovich's definitive work. See also Langlois, *Essai*, pp. 129-33; Karst, *Précis de numismatique géorgienne*, pp. 58-60, Pl. X.

112. Abazi Tiflis

Design as Double Abazi, but Rev., above: ზ S = 200. Date: 1821, 1831.

R 20 mm. 3.18 gr. PLATE XV, 3.

113. Half abazi Tiflis

Design as Double Abazi, but Rev., above: რ R = 100.

Date: 1823, 1828.

R 16 mm. 1.51-1.54 gr. PLATE XV, 4.

114. Bisti Tiflis

Design as Double Abazi, but mint-masters' initials omitted on copper denominations. The word "t'et'ri" on the Rev. is replaced by "P'uli" (ფული), signifying copper money.

Rev., above: კ K = 20.

Date: 1810.

Æ 31 mm. 15.80-16.52 gr. PLATE XV, 5.

115. Double p'uli Tiflis

As Bisti, but Rev., above: ი I = 10.

Date: 1805, 1808.

Æ 25-26 mm. 7.24-7.92 gr. PLATE XV, 6.

116. P'uli Tiflis

As Bisti, but Rev., above: ၅ E = 5.

Date: 1806.

Æ 20 mm. 3.99 gr.

PLATE XV, 7.

The running expenses of the Tiflis mint as well as technical considerations of a fiscal character soon caused the Russian Finance Ministry to press for its closure. In 1824, however, the Emperor Alexander signified his desire that it should be maintained in operation. Under Nicholas I, the Council of State finally decided in 1832 to recommend its suppression as soon as its current stocks of silver were exhausted. Double abazi were struck until February, 1834, though still bearing the date 1833, and the mint's operations then came to an end.¹

Official reports show that these Russo-Georgian coins continued to circulate for many years after the closure of the Tiflis mint, as well as the old abazi of Erekle's time and various Persian and Turkish coins in traditional use. A Georgian acquaintance from Ratcha in Western Georgia states, for example, that the pârâ was common there in his youth. Until the 1917 Revolution, however, the official currency was that of the Russian Empire.

¹ Grand-Duke Georgy Mikhailovich, pp. IV-V; further documents on the Tiflis mint and related questions of Russian financial policy in Georgia are to be found in the same author's *Monety Tsarstvovaniya Imperatora Nikolaya I*, St. Petersburg, 1890, Nos. 91, 94, 104, 122, 131, 169, 271, 294, 301.



LIST OF GEORGIAN MINT TOWNS

<i>Town</i>	<i>Period of mint's operation</i>
AKHALTSIKHE	Mongol and Trapezuntine periods
DIOSCURIAS (SUKHUM)	Classical; 14th century
DMANISI	Mongol
K'UT' AIS	Intermittently, 11th century onwards
PHASIS	Classical (? mint for coins of Colchis?)
QARĀ-AGHĀCH (QARAGHAJI)	Mongol
TIFLIS	6th century to Tsarist period

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Cartographical Note

The map showing Georgia and neighbouring areas in the late 17th century is a section of H. Laillot's map, "Estats de l'Empire du Grand Seigneur des Turcs, en Europe, en Asie, et en Afrique, divisé en tous ses Beglerbeglicz, ou Gouvernements, où sont aussi remarqués les Estats qui luy sont Tributaires, dressé sur les plus nouvelles relations à l'usage de Monseigneur le Duc de Bourgogne." It is reproduced here by kind permission of the map's owner, Prince Archil Gourielli.

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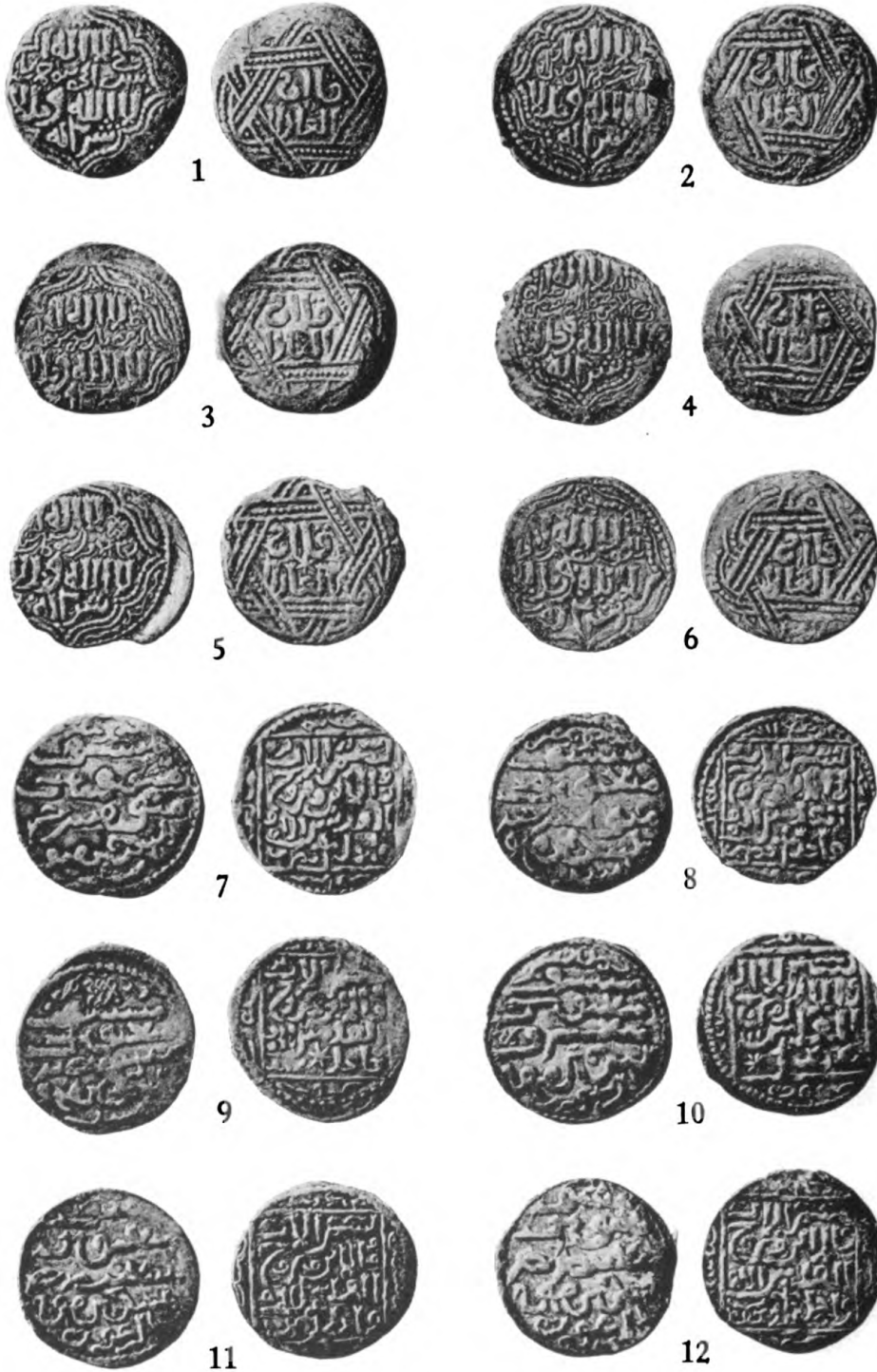


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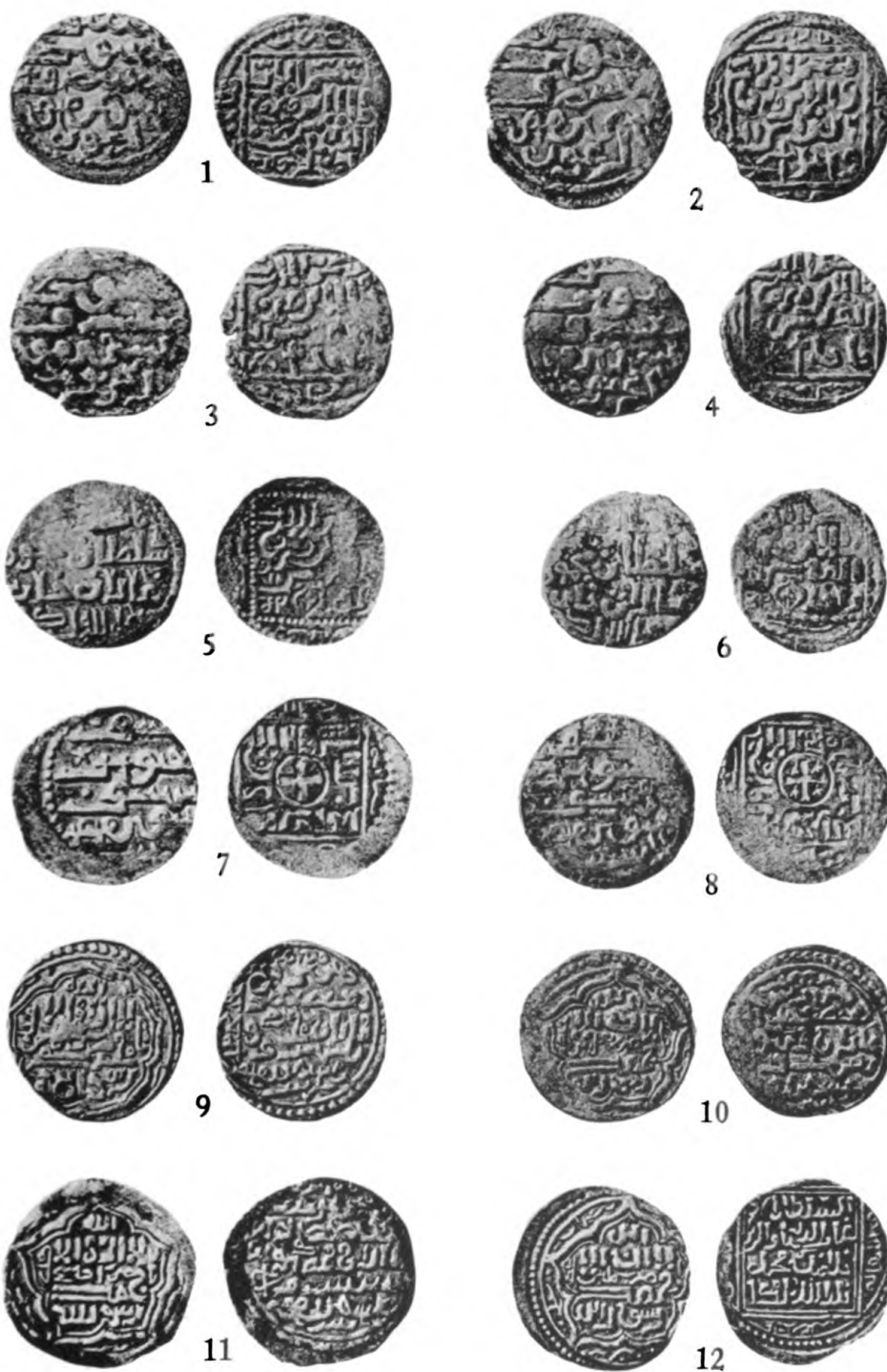


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IL-KHANS: ARGHUN (1-2); GAIKHATU (3-4);
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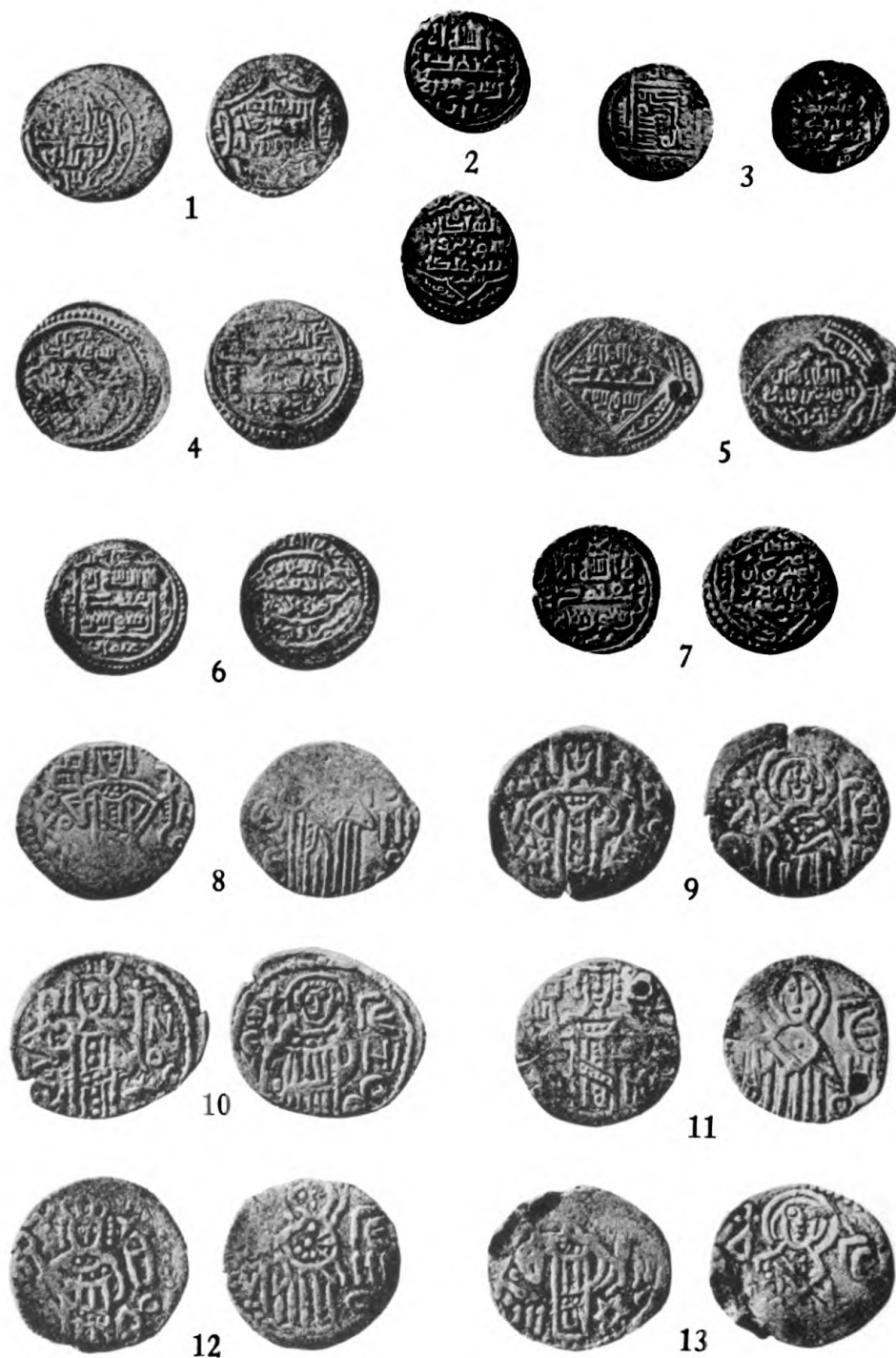


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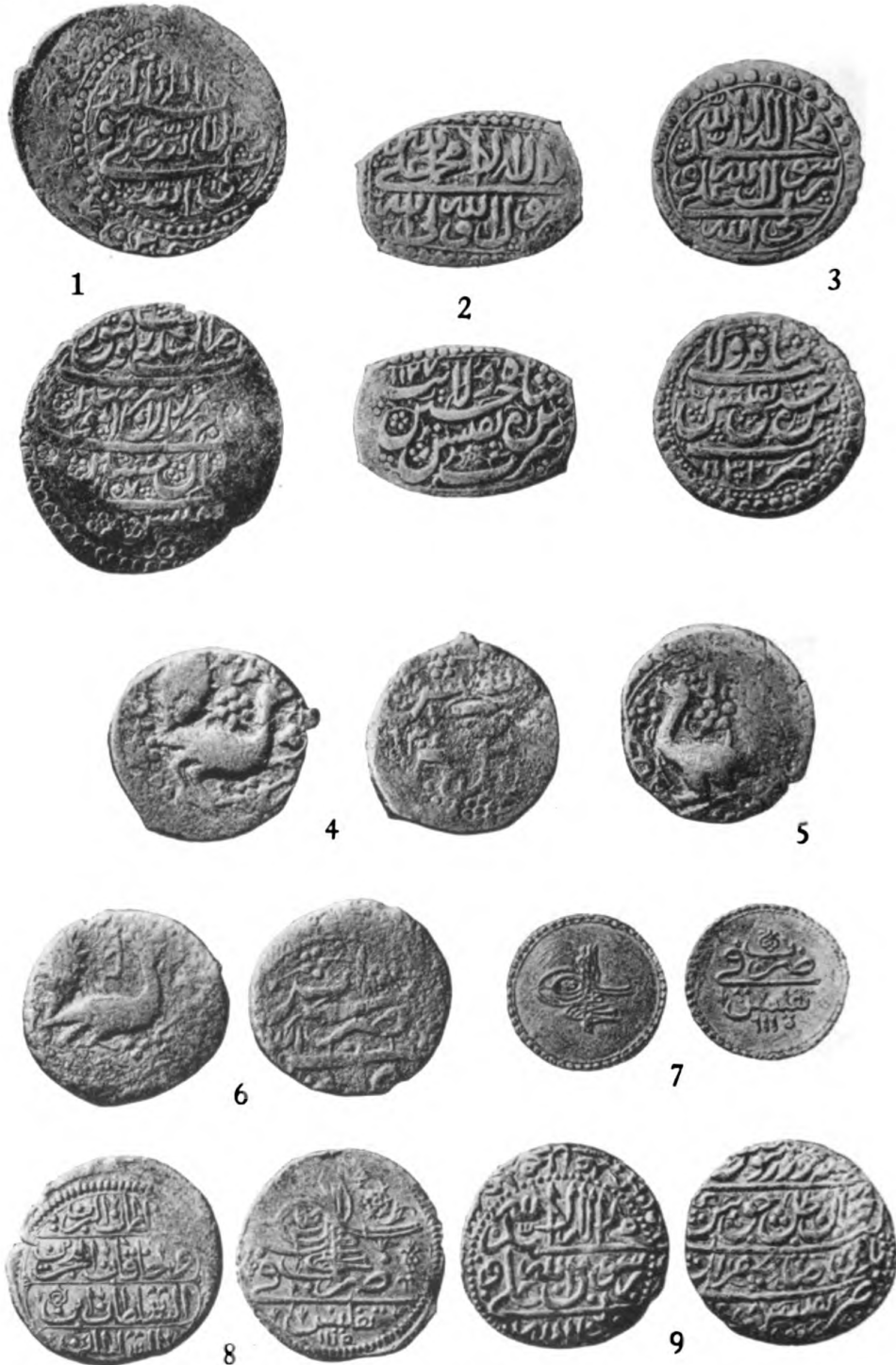
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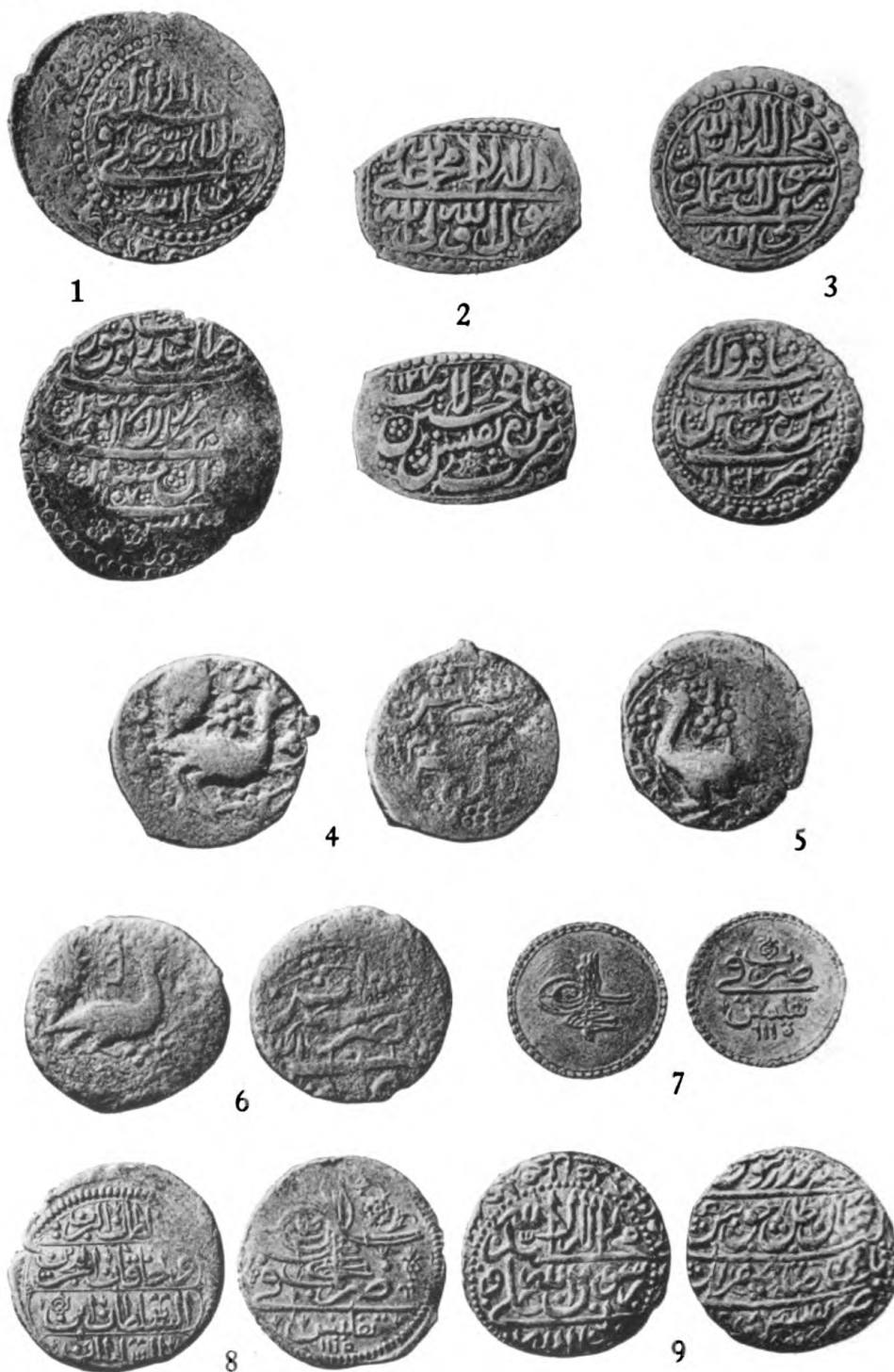


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NADIR SHAH (1-6); TEIMURAZ II (7);
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XI



SHAH SULTAN HUSAYN (1-3); KING BAK'AR (4-6);
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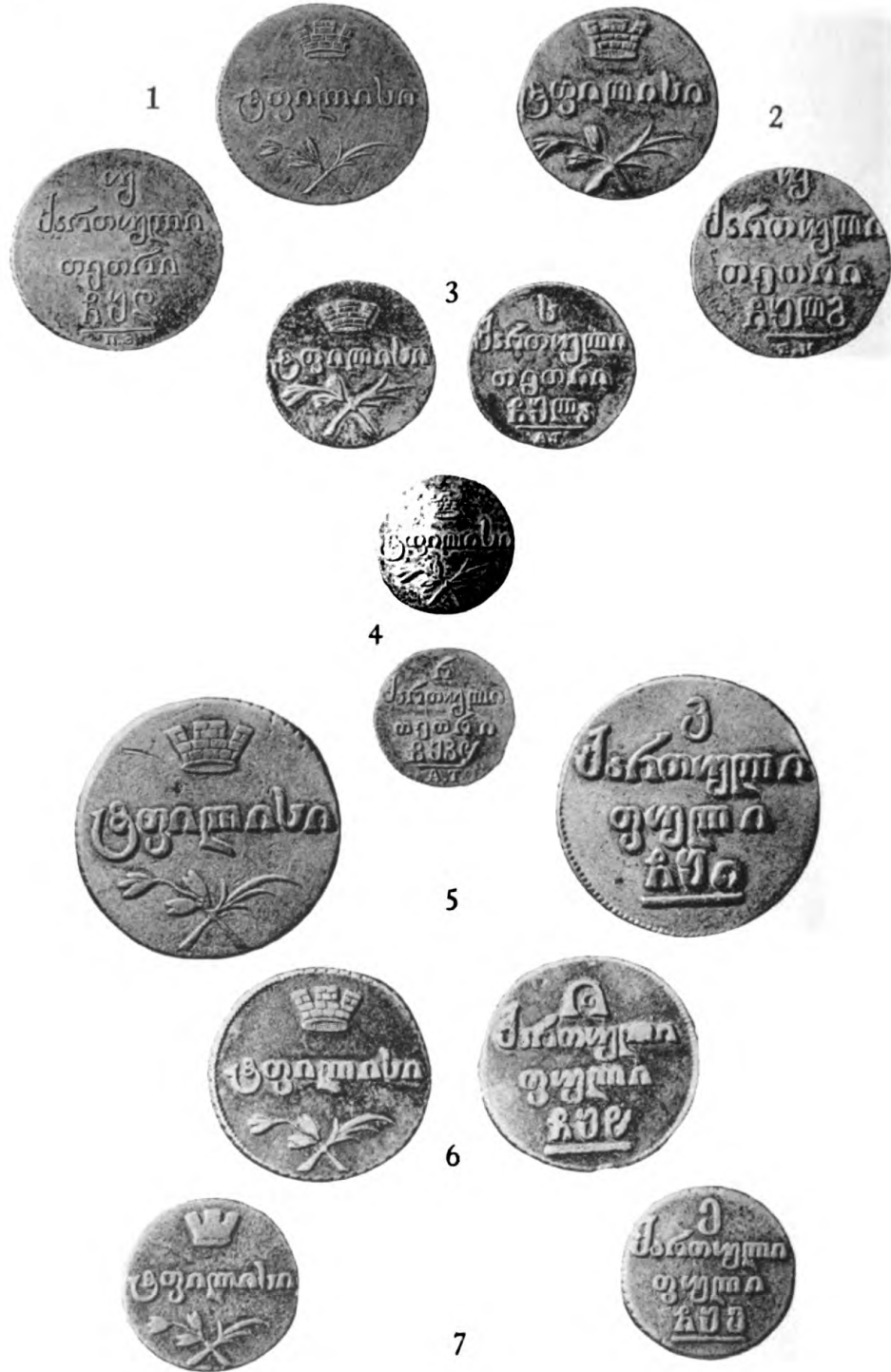


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RUSSO-GEORGIAN SERIES

NUMISMATIC NOTES AND MONOGRAPHS

No. 131

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no 131

THE COINAGE OF THE FIRST MINT
OF THE AMERICAS
AT MEXICO CITY

1536—1572

By ROBERT I. NESMITH



THE AMERICAN NUMISMATIC SOCIETY

NEW YORK

1955

THE AMERICAN NUMISMATIC SOCIETY

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Number 131

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is devoted to essays and treatises on subjects relating
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The Coinage of the First Mint of the Americas at Mexico City

1536—1572

By ROBERT I. NESMITH



THE AMERICAN NUMISMATIC SOCIETY

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To my friend,

Alberto Francisco Pradeau

Without whose help this book could
not have been written

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INTRODUCTION

The earliest silver and copper coins of America were struck at Mexico City where the first mint of the New World was established by the Spanish in the spring of 1536, during the reign of Charles and Johanna. Probably because of the great number of varieties in which the coins of this series exist, they have never been fully described or illustrated. It is the aim of this work to fill the long existing void in numismatic literature covering the coinage of the Mexico City mint between 1536 and 1572.

The present study originated with a suggestion of Mr. Wayte Raymond that the author prepare three short articles on the series for *The Coin Collector's Journal* in 1943-44. In the preparation of these articles it became clear how scanty the information is concerning this entire series and the circumstances under which it was struck. Much of the little information available — scattered through books, periodicals, and coin catalogues — is either incorrect, vague, or contradictory.

The original documents of the period 1536-72 relating to the Mexico City mint — decrees, regulations, appointments, etc. — repose in the Archives of the Indies in Spain. Many of these which have not perished have never been transcribed and printed. The documents are long and involved; many of the words commonly found are obsolete today, many others have changed their meaning; proper names, legal forms, and technical terms are abbreviated; and the handwriting of the sixteenth century is difficult to decipher. As a result there have been errors in transcription of dates and names in some of the printed sources. It has been our attempt, so far as possible, to examine reproductions of the original documents and to reconcile the existent inconsistencies. Because it has been so frequently misquoted, the royal

decree establishing the mint is published in English translation for the first time in the Appendix to this volume.

A wealth of detail concerning the mint in its early days of operation is contained in the record¹ of the testimony taken in the investigation of the Mexico City mint made by Don Francisco Tello de Sandoval. This is the most valuable record of mint affairs and procedures during this period which has yet come to light. It has been possible through it to reconstruct the early history of the mint on the following pages.

When Hernando Cortés, the conqueror of Mexico, returned to Spain in 1540 he preferred charges against the Viceroy Mendoza, and inspired an attack on his administration of New Spain and on those others whom he regarded as responsible for his lost prestige. He found little satisfaction at court but with the framing of the New Laws in 1542-1543 under Las Casas he presented his charges and complained of unfair treatment at Mendoza's hands and charged his administration with graft, inefficiency and favoritism.² As a result of Cortés' charges, the lic. Francisco Tello de Sandoval³ sailed for New Spain in November, 1543, with authority to investigate all of the royal offices in New Spain under a *provisión de visita*, which

¹ The original manuscript record of the testimony in the investigation consists of seventy-eight folio pages in the *Archivo General de Indias, sección de Justicia, estante 48, legajo 2, cajas 20-22*. Excerpts appear in J. T. Medina, *Las Monedas Coloniales Hispano-Americanas*, Santiago de Chile, 1910, pp. 59-63. Medina in error dates the investigation as taking place in 1546. It was also used as the basis of an article by A. S. Aiton and Benj. W. Wheeler, "The First American Mint," in *The Hispanic-American Historical Review*, Vol. 9, No. 2, 1931. The full text is printed in Spanish in A. F. Pradeau, *Don Antonio de Mendoza y la Casa de Moneda de México en 1543*, Mexico City, 1953, where errors by the printer have confused the text and names. These errata have been published in *Numisma*, Num. 13, Oct.-Dec. 1954, pp. 127-129. Hereafter, references to the original testimony are given as TSI. Other references to the *Archivo General de Indias* are given as AGI.

² For the charges see A. S. Aiton, "The Secret Visita Against Viceroy Mendoza," in *New Spain and the Anglo-American West*, 1932, Berkeley, Cal., pp. 1-22.

³ Sandoval, a member of the Council of the Indies, canon of the Cathedral in Seville, and Inquisitor of the bishopric of Toledo was granted his authority by royal decrees of May 13, and June 26, 1543.

gave him authority to question the conduct of all officials, from the highest to the lowest, and bring charges against them.^{3a}

The party⁴ appeared at the mint on May 27, 1545, to inspect and investigate the Mexico City mint and its officials, to ascertain what money was being coined there, and to learn whether the royal ordinances and laws governing mints were being observed.⁵

As the investigation progressed and the departments of smelting, coining, weighing and bookkeeping were visited, the officials and workers were thoroughly questioned as to their appointments, their duties, their predecessors and fellow workers. Veiled insinuations from some of the workers cast charges of questionable and illegal conduct at others. The official weigher of the City of Mexico was called to test the weights of the mint weigh-master. Investigation was made of the family relationships of officials to each other and of their ownership of slave workers at the mint.

The Sandoval investigation of New Spain lasted from 1544 to 1547, in which year Sandoval returned to Spain and brought charges against the viceroy before the Council of the Indies.

The results of the Sandoval investigation may have corrected some administrative abuses of the colony but all the charges against the viceroy Mendoza were later dismissed by the Council of the Indies. The mint was also later investigated by the viceroy himself and as a result certain changes were recommended to the King. Mendoza, however, did not imprison the officials, although he found them all guilty in some degree of minor infraction of the laws.

Study of the actual coins issued by the mint presented their own set of complications. Because of their multitudinous variations, it soon became obvious that special techniques were required to make a clear and exact arrangement of the coins possible. Each coin was

^{3a} C. Pérez Bustamante, *Don Antonio Mendoza*, Santiago, 1928, and A. S. Aiton, *Antonio de Mendoza*, Durham, N. C., 1927.

⁴ Sandoval's staff consisted of Miguel López de Legazpi and as witnesses, Francisco Vásquez de Coronado, a member of the town council of Mexico City, Cristóbal de Espíndola, constable of the Holy Inquisition; and Diego de Rivera, a resident of Mexico.

⁵ TSI, May 27, 1545.

photographed and then enlarged to as much as fifteen diameters, so that every variation and imperfection was easily seen. To provide the illustrations a tracing was made directly on the enlarged photograph which was then bleached to leave only the pen lines. Reduced to the actual size of the coin each illustration presents an exact tracing – not a drawing – of the original piece. Thus the details, which otherwise could only have been seen in an enlarged photograph, are clearly exhibited. The illustrations thus produced of coins and punch design details appear in the catalogue of coins. They are supplemented by plates made from photographs of actual coins.

A great number of persons kindly allowed their coins to be studied, photographed, and included. Among them mention should be made of P. K. Anderson, F. J. Angert, Eduardo Arpi, Jesús Avalos, Bradford Babbitt, Paul Berninger, F. C. C. Boyd, Vernon L. Brown, Humberto Burzio, Joaquín Alberto Contreras, Roy E. Daniels, Harley L. Freeman, Howard D. Gibbs, José Gómez, Clyde Hubbard, Salvador Illanes, B. G. Johnson, Fernand Kososky, Lucio Laguette, Ing. Rufino Lavín, George Martin, Enrique Martínez, George McGonigle, Jr., F. S. Neelon, Edgardo Nenclaves, A. R. Perpall, Lic. Alfredo Porraz, Dr. A. F. Pradeau, R. R. Prann, T. V. Purrington, Don Manuel Romero de Terreros, Bruno Rosales, O. K. Rumbel, José Tamborrel, Jr., R. B. Warren, J. W. Wilson, Raymond H. Wilson.

In addition, the collections of the American Numismatic Society (generously augmented by Stuart Mosher and Wayte Raymond) and the Hispanic Society of America were studied. Lic. Alfredo Porraz furnished photographs of the coins in the Museo Nacional de Historia in Mexico City by courtesy of the director, Dr. Silvio Zavala. The valuable collection of the Banco Nacional de México, S. A., was photographed through the assistance of its director, lic. Carlos Novoa, and of Carlos R. Linga. Clyde Hubbard classified several Mexican collections above mentioned, without which this work would have suffered considerably. In the summer of 1952, a large and interesting hoard of coins of Charles and Johanna and Philip II was unearthed

in Mexico. Due to the kindness of O. K. Rumbel, E. H. Windau, Victor Lanz, and Clyde Hubbard, over a thousand pieces of this hoard were examined and included in the study.

Adam Pietz of Philadelphia is to be thanked for his assistance on questions of die manufacture. Wilbur T. Meek's valuable study, *The Exchange Media of Colonial Mexico* (New York, 1948), has been quoted with his permission, as has "The First American Mint" by A. S. Aiton and B. W. Wheeler, from *The Hispanic American Historical Review*, IX, no. 2 (Durham, 1931), together with A. S. Aiton's *Antonio de Mendoza* (Durham, 1927). A. J. S. McNickle generously contributed his investigations concerning the continued striking of the Charles and Johanna series during the reign of Philip II.

Sydney P. Noe, Chief Curator, and the staff of the American Numismatic Society were of much assistance. William L. Clark and De Vere Baker photographed most of the coins, and the weighing was done by Richard D. Kenney. Richard P. Breaden translated the manuscript of the Sandoval Investigation from the Spanish transcription of Dr. A. F. Pradeau. George C. Miles provided access to the collection of the Hispanic Society of America. Sawyer McA. Mosser, T. V. Buttrey, and H. L. Adelson edited the text.

Above all, the author owes a debt of gratitude to Dr. A. F. Pradeau for his advice and criticism, for permission to use material from his private library and his published works, and for information from recent documentary discoveries. He obtained microfilms of manuscripts in the Archives of the Indies through Don José María Albareda y Herrera of Madrid, Secretario General del Superior de Investigaciones Científicas de Sevilla. For the ten years that the book has been in preparation he has enlisted the help of his friends and given freely of his own vast knowledge and energy. If he were credited throughout the text, his name would appear on every page.

THE FOUNDATION OF THE MEXICO CITY MINT

The earliest coins of the Mexico City Mint bore the names KAROLVS ET IOHANA. Charles I of Spain, the fifth Holy Roman Emperor of that name, was the son of Philip the Handsome of Burgundy, and Johanna (Juana la Loca), the daughter of Ferdinand and Isabella. He was born in Ghent on February 20, 1500. Upon the death of Ferdinand in 1516, Charles succeeded to the throne of Spain, and with his mother, Johanna, whose reason had given way in 1506 and who took no part in state affairs, ruled Castile, Aragon, Navarre and Granada, Valencia, Catalonia, and the Kingdoms of Naples, Sicily, and Sardinia, as well as the Spanish Netherland together with the new colonies in America and the possessions in northern Africa. When his grandfather, Maximilian I, died in 1519, Charles was elected Emperor, succeeded to the inheritance of the Hapsburgs, and was crowned Charles V of the Holy Roman Empire at Aix on October 23, 1520.

His mother, Johanna, lived until April 1555. In October of that year Charles resigned the sovereignty of the Netherlands to his son, Philip. On January 16, 1556, he resigned his Spanish kingdom and retired to the monastery of Yuste in 1557, where he spent his last days in rest and study.¹ Charles' enthusiasm for America was keen and farsighted, and he had a boundless belief in its possibilities. His was the age of conquest and of the organization of the western hemisphere.

New Spain had repeatedly requested the establishment of a mint prior to November 10, 1525, the date of the first recorded petition.² However, long before this petition reached Spain, the king, in his

¹ E. Armstrong, *The Emperor Charles V*. London 1902, is valuable for his life and for documents bearing on his reign.

² Francisco del Paso y Troncoso, *Epistolario de Nueva España*, Mexico, 1942. Vol. I p. 85.

decree of November 24, 1525, stated that "the favor has been asked of me to grant permission for the establishment of a mint in New Spain," and commissioned Luis Ponce de León to investigate the advantages of founding a mint in Mexico.³ Ponce died on July 20, 1526, only sixteen days after his arrival in Mexico⁴ and his mission was not even begun.

By a decree of April 5, 1528, Nuño de Guzmán was empowered to investigate the necessity of a mint in Mexico.⁵ As far as is known, nothing developed from his commission. A few years later, in a letter dated January 22, 1531,⁶ the lic. D. Juan de Salmerón, a member of the Audiencia of Mexico City, brought the subject before the Council of the Indies. He believed, upon the advice of competent local persons, that there were craftsmen in Mexico capable of making the dies and performing the other necessary mint processes.

Requests for action on a mint continued, and there are recorded letters by the Audiencia of Mexico City to the queen on March 30, 1531;⁷ by Salmerón to the Council of the Indies, August 13, 1531;⁸ and by the Audiencia to the queen on April 19, 1532.⁹ The President of the Audiencia, D. Sebastián Ramírez de Fuenleal, wrote to the king on April 30, 1532, stressing the fact that he had mentioned several times previously the necessity of a mint in New Spain to complement the production of gold and silver.¹⁰ All these efforts produced no action and no mint, and the years passed.

³ *Actas del Cabildo de la Ciudad de México*, Mexico, 1871, libro I, p. 207; cf. W. T. Meek, *The Exchange Media of Colonial Mexico*, New York, 1948, p. 40.

⁴ A. F. Pradeau, *Numismatic History of Mexico from the Pre-Columbian Epoch to 1823*, Los Angeles, 1938, p. 22.

⁵ Vasco de Puga, *Provisiones, Cédulas, Instrucciones de Su Magestad, etc.*, Mexico, 1878. Vol. 1, pp. 74-75. Originally published in Mexico in 1563.

⁶ *Colección de Documentos Inéditos Relativos al Descubrimiento, Conquista, y Organización de las Antiguas Posesiones Españolas en América y Oceanía*, (First Series), Madrid, 1864-84, 42 Vols. Vol. XIII, pp. 193-94. See also Pradeau, p. 23.

⁷ Del Paso y Troncoso, *op. cit.*, Vol. II, pp. 41-42.

⁸ *Ibid.*, Vol. II, p. 16.

⁹ *Ibid.*, Vol. II, p. 118.

¹⁰ *Col. de Docs. Ined.*, (First Series), Vol. XIII, pp. 217-218.

In 1535, with the introduction of a new form of government for New Spain under the viceregal system, Don Antonio de Mendoza was selected to act as the first viceroy in the Americas. Offered the post in 1529, he was appointed by the queen in early 1530, but was not officially confirmed until five years later, on April 17, 1535. He arrived with his party in Mexico City on November 14, 1535 to assume his position.¹¹ Among the duties assigned Mendoza was that of investigating the need of a mint and advising the king as to the necessary steps to be taken.¹² When he arrived in Mexico, however, he carried authority in the form of a decree signed by the queen on May 11, 1535,¹³ to establish a mint, and he wasted no time about it. The viceroy was ordered in the decree to find a suitable location, and if space in the court buildings was not adequate, to select a proper site, construct a building at the expense of the crown, and with the treasurer's assistance, appoint the mint staff. These orders were carried out, and the first coins of silver were issued about the month of April, 1536.¹⁴

¹¹ C. Pérez Bustamante, *Don Antonio de Mendoza*, Santiago, 1928. Mendoza sailed from San Lucar de Barrameda during July, 1535, and arrived at Santiago, Cuba, on August 26, where he stayed a few days and left about September 13. The *Actas del Cabildo de la Ciudad de México*, Vol. III, p. 129, minutes of October 2, 1535, state that the viceroy had arrived at Vera Cruz and ordered two additional councilmen to hasten there to kiss the hand of his Majesty's representative. He was received with great homage in the city of Mexico on Sunday, November 14, 1535. *Actas del Cabildo*, Vol. III, p. 131.

¹² *Colección de Documentos Inéditos Relativos al Descubrimiento, Conquista, y Organización de las Antiguas Posesiones Españolas de Ultramar*, (Second Series), Vol. X, pp. 250-251. Mendoza's duties were outlined in royal instructions dated April 25, 1535, of which Article Seven covers the mint question.

¹³ Since this decree does not appear to be in print in English, it is included in full in the Appendix. The translation is from the Spanish of José Toribio Medina, *Monedas coloniales Hispano-Americanas*, Santiago de Chile, 1919, pp. 54-57. The original is in the *Archivo General de Indias*, 96-6-12. The decree mentions only Mexico although it has been misquoted by many writers as also having authorized mints in Santo Domingo (Española), Potosí, and Santa Fé (Colombia).

¹⁴ Cf. the viceregal order of July 15, 1536, in Puga, *op. cit.* Vol. I, p. 388, which reads in part, "Before there was a mint in this city . . . and silver money coined, there was a great deal of trading by means of *tepuzque* gold. All *tepuzque* gold debts and contracts

There has been considerable difference of opinion among antiquarians concerning the problem of the site of the first mint in the New World. The difficulties have stemmed largely from the confusion of the *casa de fundición* with the *casa de moneda*. There is no doubt that the foundry, where the silver was cast into ingots and the king's *quinto* extracted as the royal tax, was not located in the same building with the mint but in the rear of the *Ayuntamiento*, or town hall. It certainly was in this location when the town council complained of its proximity to their meeting place on November 7, 1533. It is probable that the foundry was there even before the period of the *tepuzque* coinage.

When the Audiencia wrote to the king in 1531 appraising the property of Hernán Cortés, which had been confiscated by the order of the Council of the Indies, they mentioned that part of Cortés house, "will be convenient and necessary for installing a mint and smelter."¹⁵ This opinion was confirmed by Sebastián Ramírez de Fuenleal, president of the Audiencia, in a letter to the king dated April 30, 1532. He stated that in one part of the palace "there could very well be a smelter, a mint, and a prison."¹⁶

It appears that the viceroy Mendoza, who was authorized to select a site for the first mint, did choose space in the rear of the house of Cortés. Dr. Pradeau says that the viceroy decided on "a portion of the house of Cortés, Marqués del Valle, . . . at a yearly rental of five hundred pesos. On either side of this building were the streets of Tacuba

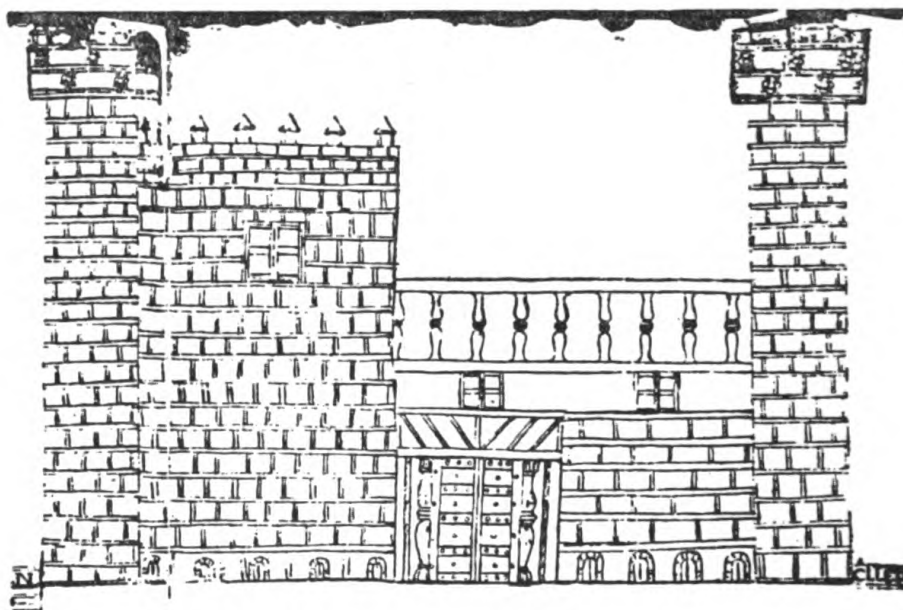
made from the first day of April of the present year are to be paid in the said gold in terms of the . . . silver reales that circulate at thirty-four maravedies each, one real for one tomln, and eight reales for one peso of *tepuzque* gold." *Actas del Cabildo*, Libro IV, pp. 20-21, June 2, 1536: "Relative to the silver reales now being made and used in trade in the city, there is much confusion because some accept them at eleven grains and others at twelve grains of *tepuzque* gold." The exact date that the mint opened is not found in any document, but the new coinage was well in circulation by June, and probably began to come from the mint in April. See Pradeau, *op. cit.*, pp. 25-26, and Meek, *op. cit.*, p. 53.

¹⁵ *Col. de Docs. Ined.*, First Series, Vol. XLI, p. 70.

¹⁶ *Ibid.*, Vol. XIII, p. 214.

and San Francisco; the rear was on Calle de la Carrera, and the front opened into a public square."¹⁷ The square is the Plaza Mayor.

In his letter to the king of December 10, 1537, the viceroy suggested "that a well fortified house might be built on the avenue called Tacuba to accomodate living quarters of various officials, as well as the foundry and the mint."



DRAWING OF CORTÉS RESIDENCE, FIRST HOME OF THE MINT*

The home of Cortés was used by the mint as late as the years 1544 to 1547 during the investigation of Don Francisco Tello de Sandoval into the affairs of the viceroyalty. Diego Fernández, a contemporary writer, verified that the mint was located in "the house where the Royal Audiencia is. It had nine patios inside and a very good garden and plaza where bull fights can easily take place. In this edifice there lived comfortably the viceroy, Don Antonio de Mendoza, the visitor, Don Francisco Tello de Sandoval, three members of the Audiencia, and the

¹⁷ Prádeau, *op. cit.*, p. 23. This site is the present location of the National Pawn Shop, the Director of which is Don Manuel Romero de Terreros, Marqués de San Francisco, the well-known historian and numismatist.

* From A.G.I. 154-2-19.

chief accountant. In the same building, there were also the royal prison, the smelter where bells and cannon are cast, and the mint. Along one side passes the street called Tacuba, and at one end San Francisco Street. At the back is the street called La Carrera. All these are principal thoroughfares. In front is a plaza where bull fights take place. The house is so large that facing the streets and plaza, there are eighty doors of private houses.”¹⁸

That the mint edifice was not adequate appears in statements by the mint officials in 1545. The vice treasurer suggested that “his Majesty should order that a mint be built which would be better and more secure than it is at present, inasmuch as it has little strength and protection, for the walls are of thin adobe, thus causing a hazard to the silver, the traders, the treasurer, and a slave who guards it.” The die-sinker, Francisco del Rincón, also stated that “it would be appropriate that his Majesty order a good mint constructed in this city, for at present it is very much in ruins and is used in this ruinous state, for which reason the merchants are distrustful and run a risk in leaving silver at the mint over night for in places its walls are of adobe. He knows that [thieves] one night broke into a box owned by a merchant named Alonso de Villaseca which contained grains of silver which he had melted for coining at the mint. The witness has seen the hole made in the wall close to where the box was kept, and heard Villaseca complain that a large quantity of silver had been stolen . . .” Other witnesses supported this description of the condition of the mint.¹⁹

The two earliest detailed drawings or plans showing the buildings around the Plaza Mayor that have come to light in the Archives of the Indies are one of ca. 1574 and one of 1596.²⁰ By this time, the *Casa del Real Palacio*, now the National Palace, had been built. It was purchased by the crown for 33,000 pesos on January 19, 1562, and

¹⁸ Diego Fernández, *Historia del Perú*, Sevilla, 1571, p. 3.

¹⁹ Tello de Sandoval Investigation testimony of June 3 and 5, 1545.

²⁰ Diego Angulo Iniguez, *Planos de Monumentos Arquitectónicos de América y Filipinas existentes en el Archivo de Indias*, Universidad de Sevilla, Laboratorio de Arte, 1933; láminas 2 A to 2 H. = A. G. I. 154-2-19.

occupied by the royal offices on August 19 of the same year. On the 1596 plan, the mint is shown as part of the palace opposite the *Casa Principal de Guerreros*. This location is on the first block of the street called *Calle de la Moneda*, and the mint was moved to this location in 1569.²¹ There is some evidence to support the suggestion of Don Lucas Alamán and Artemio Valle Arizpe that from 1562 until 1569, the mint temporarily occupied a building adjacent to the rear of the Council Chambers at *Calle de la Monterilla* and *Pasaje de Disputación*, beside the *casa de fundición*.

Even after the removal of the mint to the National Palace, it is doubtful whether conditions improved. The workers at the mint continued to toil under many handicaps until the pounding of coins by hand was finally superseded by the introduction of the screw press in 1732 and a new mint was constructed.

²¹ Alberto María Carreño, "Las Primeras Fundiciones y Amonedaciones en México" in *Investigaciones Históricas*, No. 3, April 1939, pp. 315-316. The mint moved to the location on *Calle de Moneda* behind the National Palace in 1569. "At the southern bastion of the National Palace the mint offices were auctioned off by accepting bids at the lighting of a candle and closing the auction when the candle burned out."

II

MINT OFFICIALS AND WORKERS

The decree of May 11, 1535, authorizing the foundation of the Mexico City mint, ordered that the viceroy, Mendoza, together with the treasurer, select the proper officials to operate the mint. The first officials were selected and appointed for terms of two years. In a letter to the king, dated December 10, 1537,¹ Mendoza mentioned that he had forwarded the list of officials to Spain, but fearing that it was lost in transit, he enclosed a duplicate list. Neither list has come to light, so that the complete staff of the mint for its first two years of operation is unknown. The viceroy did say that he had appointed to the office of assayer and foundryman Francisco del Rincón, who was in Mexico when Mendoza arrived and who had a letter of recommendation from the king. Antón de Vides was given the position as die sinker. Mendoza spoke highly of the skill of both appointees.

Because many of the appointments and records of the period 1536-1572 have not been located in the archives of Spain or Mexico, it is not possible to construct a complete and documented record of the various mint officials. We do know that the following officials pioneered at the mint from its opening in the spring of 1536:

Don García Manrique, the Conde de Osorno, treasurer by the king's appointment, who arrived in Mexico with the viceroy.

Francisco del Rincón, first assayer and foundryman, appointed by the viceroy.

Francisco del Rincón, a cousin, foundryman and assistant to the assayer, appointed by the treasurer.

Antón de Vides, first die sinker, appointed by the viceroy.

Alonso Ponce, a workman.²

¹ *Col. de Docs. Ined.*, First Series, Vol. II, p. 192-194.

² *Idem*, reference to Francisco del Rincón, assayer, and Antón de Vides. Francisco del Rincón, assayer, and Alonso Ponce testified on June 5 and June 9, 1545, respectively, in TSI. For the Conde de Osorno, see below note 28. The Indians of the town of Xiquipilco were assigned as the labor force of the mint for the first two years.

Late in 1537, as the first two year period was drawing to an end, a new staff of mint officials arrived from Spain. The offices had been granted to Spanish favorites by the king, and the arrival of their *tenientes*, or deputies, to assume their duties created a situation both confusing and embarrassing for the viceroy and the mint workers. As a result, Mendoza suggested that the king relieve him of the duty of making mint appointments, and that the king assume the responsibility. He complained that it was unfair to the officials who had made the initial step of opening the mint, to be displaced after the routine had been established; and that there was not room for as many officials in the Mexico City mint as in the mints of Castile. The list of the king's appointees has not been found, and the outcome of this duplication in appointments is unknown. It is known however that Francisco del Rincón, the first assayer, did not continue into a second consecutive term. Neither did de Vides, the die sinker, as far as is known.

The grant of mint offices was made in the same manner as political "plums" are handed out by politicians in our time. The king simply conferred the offices on his favorites. The beneficiary received ownership of the position for life, with all the "honors, graces, favors, franchises, freedoms, exemptions, pre-eminences, privileges, prerogatives, and immunities"³ which the title afforded. Under the royal grant, the owner could, and generally did, sell, lease, or assign the position to one or more *tenientes*. Usually the owner of the office lived in Spain, while his *teniente* resided in the mint edifice in Mexico City and performed the functions of the position. Thus, in the year 1545, the Bishop of Lugo owned the office of secretary of the mint, but the duties were carried out by Pero Sánchez de la Fuente, under a lease whereby the bishop received two-thirds of the fees, while Sánchez, his *teniente*, retained one-third.⁴

The officials and workers at the mint did not receive a salary, but worked by contract according to which they shared in the division of sixty-eight maravedís (two reales) in fees taken from each mark of

³ From the appointment of Francisco del Rincón as die-sinker, February 11, 1542.

⁴ TSI, testimony of the vice-treasurer, May 29, 1545.

silver coined. The division of the fees as given in the testimony of the Sandoval Investigation follows:

Of the fees the treasurer received twenty-two maravedíes

per mark,	XX II
the assayer received one maravedí	I
the die sinker received five maravedíes,	V
the secretary received one maravedí,	I
the guards (two) received two maravedíes,	II
the weigh master received one maravedí,	I
the coiners received eight maravedíes,	VIII
the foremen received twenty-four maravedíes,	XX IV
and the <i>raciones</i> were four maravedíes.	IV
	<hr/>
	LX VIII

The four maravedíes of the above called *raciones* were divided among the workers for subsistence.⁵ The assayer, in addition to his fees, charged for assay two reales for each ten marks of silver which the merchants brought to the mint to be coined. The *alcaldes* and the *merino* of the mint did not share in the division of the fees, but each received an allowance of 117 maravedíes for each one thousand marks coined.

The value of a mint office was considerable, as can be illustrated by the suit brought against Francisco del Rincón by Pedro de la Membrilla. The plaintiff claimed to have been swindled out of his property, del Rincón having purchased for 550 gold ducats the position as assayer which was worth some 1800. In 1544, Juan Gutiérrez purchased the office of assayer from de la Membrilla. The contract, which seems to have embraced the permanent sale of the right as *teniente*, or deputy assayer, rather than a short time lease, involved "1500 pesos *de oro de minas* of a value of 2210 maravedíes per mark."⁶

That the mint offices were much sought after stemmed not simply from the considerable income they afforded. Besides receiving the

⁵ TSI, May 29, 1545.

⁶ TSI, appended to court record.

fees assigned them, the officials were furnished quarters in the mint buildings, and were exempt from many taxes and duties which fell upon the common citizen. They had ample opportunity for graft, and, operating at a distance from Spain, with little government supervision, they had many chances to earn substantial incomes beyond their legal fees. The extent of illegal activity at the mint is indicated in the fact that the investigation by Viceroy Mendoza, reinstituted after that of Tello de Sandoval, resulted in the indictment of every official for some infraction of the laws.⁷ As early as the Tello de Sandoval hearings it was learned that, contrary to all regulations, several officials were of one family — del Rincón, and that the Negro slaves working at the mint were owned by certain of the officials, and that there was irregularity in the registration of dies as well.

Assayer and foundryman, *ensayador y fundidor*

The laws of the Catholic kings commanded that all coin of their dominions bear the registered mark, or *señal*, of the assayer of the mint of issue, as a guarantee of his responsibility for the legality in weight and fineness of the coins.⁸ From the arrangement of the coins by design and details it appears that the assayers marks were used on the coins approximately in this order: EARLY SERIES R, G, F, P; LATE SERIES G, A, R, S, L, O. In order to prove this arrangement, it would be necessary to document both the name of the assayer and the period in which he worked at the mint, an impossibility at the present because of the gaps among the records so far located. Confusion has also arisen because some of the owners of the office of *ensayador y fundidor* were not actually at the mint but lived in Spain and leased

⁷ A. G. I. Doc. 58-3-8, Mendoza to the Marqués de Mondéjar, July 1545, filed as 1549, with Mendoza's answers to the Tello de Sandoval charges against him. In Pradeau, *Don Antonio de Mendoza y la Casa de Moneda de México en 1543*, Mexico, 1953, pp. 107ff. (referred to incorrectly as 60-3-23). The marquis was D. Luis Hurtado de Mendoza, the second person to bear the title. He was the oldest brother of D. Antonio de Mendoza.

⁸ Ley 38, June 13, 1497. "...una señal suya por donde se conozca quien hizo el ensai de aquella moneda."

the position to a *teniente* at the mint. The *señal* of the *teniente* who actually worked in the mint is that which appears on the coinage.

Francisco del Rincón, first assayer. There is no question that the first assayer at the Mexico City mint was Francisco del Rincón, but he is not to be confused with his relative of the same name who at this time was foundryman. He was appointed by the viceroy and served from the opening of the mint in the spring of 1536 until some time after March 22, 1538.⁹

By the time del Rincón had completed his first two year period as assayer, the ownership of the office of assayer and foundryman belonged to Pedro de la Membrilla of Medina del Campo in Spain, who by reason of being either a minor or an incompetent was represented by his father, lic. Gutiérrez Velásquez, in all affairs pertaining to the office.¹⁰ On July 31, 1538, the owner, through his father, granted to Francisco de Loaysa, the *Oidor* of New Spain, and to Bartolomé de Consate, the Governor of Mexico City, authority to lease the office to a *teniente* for such a period and price as they saw fit. This information proceeds not from the actual contract, but from an affidavit of de Loaysa, which explained the lease, and included the statement that "I leased the office of *ensayador y fundidor* in the Mexico City mint to Francisco del Rincón [i. e., for a second term], and inasmuch as the most honorable Lord Viceroy of New Spain and the Treasurer of the said mint would not accept Francisco del Rincón for the said offices, and since the said offices [cannot] remain vacant," the lease was granted to Juan Gutiérrez.¹¹

⁹ TSI, testimony of May 28, 1545.

¹⁰ TSI appended documents and lawsuit, Justicia 1008. In every recorded document found to date, Gutiérrez Velásquez signs as father and legal administrator for his son, Pedro de la Membrilla.

¹¹ TSI appended to records, the first of a series of documents demonstrating how Gutiérrez became assayer. It is strange that having mentioned Francisco del Rincón so highly to the king that the viceroy refused a short time later to accept him for another term. Perhaps some such difficulty arose as was later to be made public in del Rincón's attempt to defraud de la Membrilla in the purchase of the office of assayer, or in the attacks on the del Rincón family generally which found a place in the Tello de Sandoval investigation.

At some time following the expiration of his first office, del Rincón seems to have filled the office of *teniente* treasurer. In 1542 he may have received the appointment as *die sinker*.

The next mention of Francisco del Rincón in connection with the office of assayer occurs in 1543, on the occasion of the purchase of the office by him from de la Membrilla on March 21.¹² On September 29, however, the owner¹³ brought suit against del Rincón to recover the rights to the office of assayer which had been sold to him a year and a half previously. Sebastián Rodríguez who had been retained as counsel, presented a petition on December 4, which claimed that del Rincón, who was thoroughly familiar with mint affairs, had purchased the office of *fundidor y ensayador*, and paid a deposit of 400 ducats of the total sale price of 550 ducats. Del Rincón had represented to de la Membrilla (who had never been in Mexico and was unfamiliar with the true value of the office) that no one would buy it for more. Rodríguez contended that the office was really worth 1800 ducats or more, and that the purchase had been made by fraud and deceit. The owners pleaded that del Rincón be forced to accept the return of his deposit, that the sale be declared void, and that the appointment be returned to the owners, in order that the position could be sold to another at its real worth.¹⁴

On December 5, 1544, a copy of the above claim was presented before the Council of the Indies. Appended to it was the statement that the petition had been examined by the members of the Council, and that Francisco del Rincón was given fifteen days to answer the charges. On December 16 lic. Juan de Lazcano stated that he, acting for de la Membrilla and Gutiérrez Velásquez and by the orders of the Council, had found del Rincón in the city of Seville and had served

¹² Listed in the General Index of the papers in the Library of the Royal Academy of History, Madrid. See below, note 17.

¹³ TSI, third document appended.

¹⁴ The position had already been sold to Juan Gutiérrez (who had leased it in 1538), on April 22, 1544. See TSI fourth document appended. During this brief period, March 1543 to April 1544, the scarce LATE SERIES coins with del Rincón's mark R were probably struck.

him in persons with the summons. No answer was received by the following January 2; five days later the plaintiff's claim of del Rincón's default was registered along with the judgment for settlement and costs of the action.¹⁵

With this suit, Francisco del Rincón disappears from the records. He may have later become the first assayer at the mints of Lima or Potosí, or it may be that this was another member of the famous family.

Juan Gutiérrez, second assayer. It is now necessary to return to the year 1538, when Francisco del Rincón completed his first two year term as assayer. The exact date on which Juan Gutiérrez assumed the official duties of *ensayador y fundidor* at the mint is unknown, but he did follow del Rincón. Because Pedro de la Membrilla owned the office at the time, Gutiérrez must have leased the position from him through de Loaysa.

Unfortunately, no documents whatever for the years 1539 or 1540 relating to the mint have been found in the Archives or calendars of state papers of Spain or Mexico. There is extant, however, the last lease signed by Gutiérrez renting him the office on January 17, 1543.¹⁶ It states in part, "that I lease to you, Juan Gutiérrez, as principal lessee, and to you, Alonso de Villaseca, as his trustee . . . being present, the said offices of *ensayador y fundidor* . . . which I lease to you for a time and space of two full years, first following, which begin to run and do run from the first day of the month of August next . . ." This does not exclude the possibility that Gutiérrez had been at the mint as early as 1538, in order to follow del Rincón in the office and to produce the EARLY SERIES with *señal* G. During del Rincón's second lease, which started March 21, 1543, and ended by the lawsuit on January 7, 1545, the position was sold to Gutiérrez on April 22, 1544.¹⁷ This contract mentioned no term of service and was evidently an outright sale for life tenure.

¹⁵ A. G. I., Justicia 1008.

¹⁶ Second document appended to TSI.

¹⁷ Fourth document appended to TSI. The date of del Rincón's second lease has been found in the index to the records in the Royal Academy of History in Madrid, but the document itself has not yet come to light. The date is possibly incorrect; it is

The dates on which Juan Gutiérrez signed either leases or documents at the mint as assayer are as follows:

January 17, 1543, two year lease, to commence the following August.¹⁸

March 17, vouchers at the mint.¹⁹

August 1, lease of office renewed, at a rental of 35 pesos *de oro de minas*, each peso valued at 450 maravedies.

April 22, 1544, purchase of office for 1500 pesos valued at 2210 maravedies per mark. One-half the price was paid in the form of five plates of silver weighing 152 marks, 5 oz., and 6 reales.²⁰

August 9, vouchers at the mint.

February 16, 1545, vouchers at the mint.

March 18, vouchers at the mint²¹

difficult to understand how he could have leased the office in March of 1543 after Juan Gutiérrez had already obtained the lease to begin the following August. If the date of the del Rincón lease is correct, one of two solutions may obtain. It is conceivable that the leases were granted under two separate powers of attorney, some confusion arising therefrom; but for this there is no evidence. It is also possible, and certainly more probable, that del Rincón bought the office rather than leased the position of *teniente*. Such indeed was the case, if it is this lease to which the suit against del Rincón refers, the suit giving no date for the original transaction. In such a case, Gutiérrez, who had already leased the office as *teniente* for two years beginning August 1, 1543, would continue in his position, now having as his master del Rincón rather than Pedro de la Membrilla. Del Rincón would have ownership of the office, but would not act in it until Gutiérrez' lease should have expired. If this hypothesis is true, we may have here a further source of the enmity between Gutiérrez and the family del Rincón in general; for Francisco del Rincón would hardly have let out to Gutiérrez in 1545, on the expiration of the two year lease, an office he was competent to fill himself, and it was to the interest of Gutiérrez to frustrate del Rincón's ownership to keep his own position secure.

¹⁸ Doc. no. 2 appended to TSI. But there surely was an earlier lease under which Gutiérrez acted prior to 1543. The vice-treasurer stated on May 29, 1545 that Gutiérrez took the office before the lease in question was signed — "he took office under the ordinances before the transfer."

¹⁹ TSI, testimony of May 28, 1545.

²⁰ Fourth document appended to TSI. A considerable sum, amounting to 675,000 maravedies, compared to the annual rental of 15,750 maravedies, which Gutiérrez had paid previously to lease the position.

²¹ The above are signatures, found in TSI, testimony of May 28, 1545.

From May 28 to July 15, he was acting as assayer during the Sandoval Investigation.

On May 28, 1545, Gutiérrez testified that he had resided at the mint for six years, which would place him there as early as May, 1539.

The known history of Juan Gutiérrez, then, makes him responsible for the EARLY SERIES coins with the mark G, as well as those of the LATE SERIES with G. More varieties are known of his coins than of those of any other assayer of the Charles and Johanna coinage.

Esteban Franco, third assayer. The history of this assayer, though interesting, is extremely fragmentary. He was originally an assayer at the foundry, the *casa de fundición*, for he was appointed assayer for the *tepuzque* gold coinage on August 4, 1531.²² He was still serving at the foundry in June-July 1545, and was summoned to the mint by Tello de Sandoval to make test assays.²³ Charges were later preferred against him for irregularities, and he was recalled to Spain, convicted, and removed from office.²⁴

Among the many hundreds of pieces of the Charles and Johanna coinage which were studied, only eight coins bearing the *señal* F were found. Franco clearly served in a temporary capacity at the mint only for a very short period, probably around 1538-40. His coins seem to have been struck at approximately the same period as some of the LATE SERIES G.

Pedro de Espina, fourth assayer. The rare EARLY SERIES coins with the mark P are probably those of this assayer. His period at the mint can be dated by his signature on a voucher dated October 22, 1541.²⁵ Like Franco, de Espina probably served only briefly. One Pedro de Espina was at the foundry in Mexico City in 1528 and to him was entrusted the position of assayer of the gold smelted there —

²² *Actas de Cabildo*, II, p. 124. He was appointed at the request of Alonso Franco, assay master (*marcador*), who returned to Spain.

²³ TSI, May 27, June 13, and July 15, 1545.

²⁴ Alberto María Carreño, *Un desconocido Cedulario del Siglo XVI*, Mexico, 1944, pp. 395-401. Doc. 213, *Ejecutoria de la Fiscal en la residencia e pleito con Esteban Franco, vecino de México*.

²⁵ TSI, testimony of May 28, 1545.

“... ensayara y marcara los quilates del oro.” In 1533 he was named “marcador desta ciudad... ensayador...”²⁶ As no other individuals with the initial P have been found during these years in the records of the foundry or the mint, we may assume that the Pedro de Espina of each case was one and the same person, and that he was the assayer responsible for the coins of the EARLY SERIES with *señal* P.

Luis Rodríguez, seventh assayer. The common LATE SERIES coinage with the mark L has generally defied attribution, partly because most previous attempts to locate an official to whom the mark might be referred covered only the period 1536–1556. However it now seems clear that the mass of pieces with the marks L and O cannot be fitted into the brief period which would have to be allotted for the LATE SERIES coinage in such a scheme. Rather, the Charles and Johanna coinage continued to be struck into the reign of Philip II, probably as late as 1572,^{26a} and it is in this period that the latest assayers are to be found. It is known that on May 30, 1570, the Council of the Indies notified Philip II of the death of one Luis Rodríguez, “assayer of the mint of Mexico”, and asked instructions as to the conditions under which the office of assayer might be offered for sale.²⁷ Inasmuch as there was no need for the assayer to register the initial of his family name one may assume the mark L to have been that of Luis Rodríguez.

The assayers who used the marks A, S, and O — probably the fifth, sixth, and eighth respectively — on the LATE SERIES coinage are unidentified to date. Since O was also the first assayer of the coinage bearing the name of Philip II, his appointment may come to light in the records of that reign. L (Luis Rodríguez) and O evidently alternated as assayer for at least one period, and possibly more, since pieces are known both with L punched over an original O on the die, and vice versa.

²⁶ Pradeau, *Historia Numismática de México*, Mexico, 1950, p. 52, citing L. Anderson, *El Arte de la Platería en México, 1519–1936*, New York, 1941, I, p. 82.

^{26a} See also p. 38.

²⁷ A. G. I. 140–7–32.

Treasurer, *tesorero*

The first treasurer of the mint was Don García Manrique, the Conde de Osorno, who arrived in Mexico with the viceroy in 1535.²⁸ Returning to Spain in 1537, he left as *teniente* or vice-treasurer of the mint Alonso de Mérida, who served from 1537 until 1541, when he returned to Spain.²⁹ On July 20, 1538, the Conde de Osorno resigned his office in favor of his eldest son, Pedro Manrique.³⁰ This did not affect the position of the *teniente*.

Francisco del Rincón, the first assayer, may have been *teniente* treasurer for some period between 1538 and 1543; during the investigation of Tello de Sandoval, testimony was given to this effect.³¹ No other documentation of this possibility has been found.

Juan de Manzanares was appointed vice-treasurer in the place of de Mérida in 1541.³² His signature appears on vouchers dated October 22, 1541; March 17, 1543; August 9, 1544; and February 16, 1545.³³ He was at the mint during May-July 1545. How much longer he served is not known.

Life ownership of the office of treasurer passed to Miguel Manrique, who resided in Spain, from his father, Pedro Manrique, the Conde de Osorno, on November 9, 1555.³⁴

Scribe, *escribano*

The scribes of the mint are known only through scattered references. The names of the following persons have been found:

²⁸ A. G. I. 60-2-6, "El conde de osorno paso a la nueva españa el año de 535 pero no parece la cédula de la merced que se le hizo de tessorero de la cassa." Quoted in Aiton and Wheeler, "The First American Mint," *The Hispanic American Historical Review*, IX, no. 2 (May, 1931), p. 209, n. 35; hereafter referred to as Aiton and Wheeler.

²⁹ TSI, May 28, 1545, voucher of March 22, 1538; and testimony of May 29, 1545.

³⁰ General Index of the papers in the Library of the Royal Academy of History, Madrid.

³¹ TSI, testimony of Gonzalo Pérez, June 8, and Alonso Ponce, June 9.

³² TSI, testimony of May 29, 1545.

³³ TSI, testimony of May 28, 1545.

³⁴ General Index of the papers in the Library of the Royal Academy of History, Madrid.

Pedro Juárez de Carabajal, appointed June 16, 1535.³⁵

Diego Hernández was serving at the mint on March 22, 1538 and February 16, 1545.

Baltazar del Salto was serving on October 22, 1541.

Andrés de Cabrera was serving on March 17, 1543.³⁶

The Bishop of Lugo owned the office of scribe in 1545. Pero Sánchez de la Fuente acted as his *teniente* at the mint and signed documents dated August 9, 1544, and March 18, 1545.³⁷

Die Sinker, *tallador*

Antón de Vides was the first die sinker of the Mexico City mint. He was appointed for a two year term by the viceroy before the mint opened. He served from the beginning until some time after Dec. 10, 1537,³⁸ and was responsible for the dies with which the first coinage, the EARLY SERIES with R, were struck. Whether a new die-sinker appointed by the king then took over the position is unknown although the viceroy mentioned that new appointees to mint offices had arrived in Mexico (see p. 14) late in 1537.

Ambrosio Gutiérrez³⁹ was die sinker at the mint (c. 1540-41) but he died before Feb. 11, 1542, and the appointment was given to Francisco del Rincón (which one of the Francisco's is not known).

One Pedro Salcedo is mentioned as having served as die sinker.⁴⁰ He could have been acting temporarily following the demise of Ambrosio Gutiérrez, in 1541 or early 1542. A Pedro Salcedo was a silver-

³⁵ Aiton and Wheeler, p. 210. This is doubtful at best, since the mint was not opened until some ten months later. Mendoza, to whom the appointments were entrusted, only arrived in Mexico City in November 1535.

³⁶ TSI, May 28, 1545. All three signed *encerramiento* vouchers.

³⁷ TSI, May 28, 1545, voucher signatures; and testimony of May 29.

³⁸ *Col. de Does. Ined.*, First Series, II, p. 193. The Mendoza letter.

³⁹ Aiton and Wheeler, p. 210, misread Gutiérrez as "Gris," probably from the abbreviation of the name in manuscripts.

⁴⁰ TSI, testimony of the guard, Santa Cruz, June 2, 1545. At this time Salcedo was inspector of weights and scales for the City of Mexico. He was called to the mint on June 20 to test the weights.

smith in Mexico City who on January 12, 1543 was ordered by the town council to make a stamp or die to mark textiles and woven materials made in the city with the mark $\overset{\circ}{x}$ M⁴¹

J. T. Medina, without naming his sources, stated that "Francisco del Rincón, as his father once did, likewise renounced his office and placed his resignation in the hands of his Majesty, in favor of Juan de San Pedro. Gaspar de Tebes, the chief royal equerry, who had been appointed to the same office, filed suit against Juan de San Pedro."⁴² Dr. Pradeau and the author have been unable to trace or document this information; if the records of the transaction and suit could be traced in the Archives of the Indies, they should offer considerable new information on the officials and the transfer of offices during the early years of the mint.

Although it was contrary to law for relatives to hold, own or serve in more than one capacity at the mint, this rule apparently did not prevent relatives from holding different positions. Previous to 1545, Alonso del Rincón owned the office of die-sinker and served at the mint.⁴³ He returned to Spain on April 12, 1545, and left at the mint as his *teniente* the Francisco del Rincón who had been previously a foreman and foundryman,⁴⁴ who was working at the mint and who testified at the Sandoval investigation. How long he held the office and who followed him in the position is unknown to the writer.

There is evidence that he was in Chachapoyas, Peru, in December, 1544. His signature appears on a document^{44a} re-appointing him a

⁴¹ *Actas de Cabildo*, IV, pp. 326 and 333.

⁴² *Las Monedas Hispano-Americanas*, Santiago de Chile, 1919, p. 50. So many of the family del Rincón were active in the mints of Spain, Mexico, and Peru, that they are easily confused. They seem to number father, sons, brothers, and cousins. A Juan de San Pedro was living in Mexico City at the time, but he does not seem to be mentioned in any mint records. *Actas del Cabildo*, Vol. IV, p. 340.

⁴³ TSI, testimony of May 27, 1545; May 29, June 2, June 3, June 5, June 8, and June 9.

⁴⁴ TSI, testimony of June 3, 1545.

^{44a} Harkness Collection of Spanish Manuscripts Concerning Peru, Nos. 1195 and 1196, Library of Congress. The signature on this document is identical with that of Del Rincón on the TSI papers.

manager of mines at that city. How he could have been active at the Mexico mint and simultaneously a manager of mines in Chachapoyas is an unsolved mystery.

Justices of the mint, *alcaldes*

Lic. Castañeda, 1543-1555, appointed by the king.

Lic. Alemán, 1545, appointed by the viceroy.⁴⁵

Judge of the mint, *merino*

Hernando Alonso was serving as *merino* during May-July, 1545, by appointment of the treasurer.⁴⁶

Guards, *guardas*

Francisco de Lerma, at some time during 1538-1543.⁴⁷

Cristóbal de Caniego, or Callego, signed vouchers at the mint on March 22, 1538, and October 22, 1541. He died some time before May 29, 1545.

Juan de Cepeda signed voucher on March 17, 1543.

Juan de Santa Cruz was appointed by the viceroy following the death of Caniego. He was guard at the mint in May-July 1545, where he had served for about three years.

Diego de Madrid signed vouchers as guard on August 9, 1544, and March 18, 1545, and was serving during May-July, 1545. He acted in the absence of Santa Cruz.⁴⁸

⁴⁵ TSI, testimony of May 29, 1545.

⁴⁶ Idem.

⁴⁷ The only mention of de Lerma occurs in TSI, testimony of Alonso Ponce, June 9, 1545.

⁴⁸ On the guards generally, TSI, May 28, 1545, voucher signatures; and testimony of May 29, June 2, and June 9.

Weigh master, *balanzario*

Gabriel del Rincón owned the position in 1544–1545, residing in Spain. Martín del Rincón served in Mexico as his *teniente*. He resigned on August 20, 1544, but continued to live in Mexico City. In 1545 he was trading in silver and taking it to the mint to be coined.

Juan de Cepeda, formerly a guard, was appointed by the treasurer to this office following the resignation of Martín del Rincón. He was serving in May–July, 1545.⁴⁹

Coiners, *acuñaadores*

Francisco Hernández, 1542 to July 1545 and later.

Miguel Consuegra his brother, was serving in 1545.

Pedro Bezón, beginning in 1543, was still serving in May–July, 1545.

Gonzalo Pérez, beginning in 1540, was still serving in May–July, 1545.⁵⁰

Foremen, *capataces*

Francisco del Rincón, cousin of the assayer Francisco, about 1540.

Gerónimo de Tuesta, was serving during May–July, 1545.

Alonso Ponce, formerly a workman, was serving as foreman during May–July, 1545. He had been at the mint since it opened.

Antón Sánchez, his brother, a foreman in May–July, 1545, stated that he had been at the mint for about three years, first as a workman.⁵¹

The labor force.

The Indians from the village of Xiquipilco were used as laborers in the mint under the system of *repartimiento*, at least for the first four

⁴⁹ TSI, testimony of May 27, 1545; May 28, May 29, June 3, June 5.

⁵⁰ TSI, testimony of May 29, June 3, June 6, and June 8, 1545.

⁵¹ TSI, testimony of May 29, June 5, and June 9, 1545.

years of operation.⁵² Under this system, which was really serfdom, a weekly allotment of Indians was assigned to the mint for the heavy work, and their Spanish owner collected for their services. Besides the Indians, a number of Negro slaves were employed at the heavier work — some cut and shaped the silver, others hammered the coins. They were said to be “competent and efficient,” and “without them the coins could not be made, inasmuch as the work was very hard and of little interest to the Spaniards, who did not want it nor had the knowledge for it.”⁵³ The difficulty of the work cannot be questioned; during the investigation by Tello de Sandoval it was asserted that some of the slaves had died from the effects of their labors.⁵⁴

⁵² Meek, *op. cit.*, p. 44.

⁵³ TSI, testimony of June 5, 1545.

⁵⁴ TSI, testimony of June 2, 1545.

III

MINT TECHNIQUES: DIE MAKING AND COINING

Little is known of the mint processes and procedure during the period of the Charles and Johanna series. This is hardly strange, for coinage, like the arts and crafts of the middle ages, was a trade jealously guarded, the secrets of which were not published for laymen to learn or practise. The mint workers purchased their positions and paid for the privileges of capitalizing on their skill, which they had learned from their fathers and from years of apprenticeship. Francisco del Rincón, the die sinker, stated that he could teach a new worker to become skillful in three days,¹ but certainly he did not mean the trade of die sinking, but such menial work as an ordinary helper or workman might be assigned to do.

Machinery was not in use. The knowledge and craftsmanship derived from the staff of Spanish officials; the strength and muscle was provided by the Indians and the Negro slaves who did the hot, dirty work, and the hammering.

The Flans

Silver bars bearing the tax collector's seal denoting that the king's fifth had been deducted could be purchased at the foundry.² The trader or merchant who brought his silver to the mint to be coined received

¹ TSI, testimony of June 5, 1545.

² The United States National Museum purchased one of a number of such ingots of silver, brought up from an old wreck off the Florida coast in 1949. It weighs seventy-five pounds Troy, and is stamped with some numbers and designs, undecipherable due to corrosion. Two more stamped ANATA, are in McKee's Museum of Sunken Treasure at Plantation Key, Florida. A fourth, in such good condition that the markings are plain, is on exhibit at the Nassau Development Commission, and is described in *The Lost Treasure of King Philip IV*, Nassau, 1953, by A. J. S. McNickle.

a receipt for so many marks' weight of metal. His silver was marked and stored with a copy of the receipt to await coining. There was some criticism by merchants who were forced to await the delivery of their coins on account of various delays. The mint officials suggested in 1545 that the king deposit one or two thousand marks of silver as a backlog for the mint to coin, that they might thus anticipate any demand. At least part of the trouble lay in the slowness of the foundry to deduct the *quinto* (the King's Fifth paid to the crown from all gold and silver mined) and release the bullion to traders.³

The silver previously assayed at the foundry was again assayed at the mint, and the owner was charged a fee of two reales per ten marks by the assayer for this service. If the quality did not agree with the standard, the owner was notified. If somewhat better than standard, the owner generally allowed it to be coined rather than undergo the expense of returning it to the foundry to be resmelted and re-alloyed; if below standard, the silver was returned to the owner, since the mint officials would have been penalized for coining it.

The bullion was cast into thin bars, and hammered or rolled into strips from which the blanks were cut and rounded. This work was done by Indians or slaves under the supervision of Spanish foremen, *capataces*. The copper blanks were made with more difficulty than the silver. The first flans were brittle and broke under the blow of a hammer. Since the mint staff was unable to overcome the difficulty, the work finally was given out to the Indians of Michoacán, who were well versed in handling copper. They cast the bars, rolled the strips, and delivered the blanks to the mint already cut. During the investigation, Juan Gutiérrez testified that "there had been cut and minted copper money in cuartos of four maravedies and two maravedies, and at present (1545) the blanks are being brought, ready cut, from Mechoacán. . . that the making of the blanks has been done in this manner for two years,⁴ more or less, by the Indians of Mechoacán,

³ TSI, testimony of June 3, 5, and 8, 1545.

⁴ So that copper blanks must have been made at the mint for about a year at most.

who are taught at this mint, and they make them from copper extracted from the Province of Mechoacán... that in this copper money no silver is used, as the viceroy ordered, although by the sovereigns of Castile a certain quantity of silver is used in the copper coinage." He also stated that "the copper money struck at this mint belongs to His Majesty, and none is made for any private individual."⁵

The blanks were weighed by the weigh master, the *balanzario*, and if they averaged correctly (67 reales to the mark for silver; 144 maravedies for copper) they were sent to the coining department. Here the blanks were heat treated or annealed, and passed on to the coiners to be struck between the dies by hand hammering.

In spite of the crude methods employed, the coins of the Charles and Johanna series are of fairly even thickness and are well rounded. They are better made than many of the coins struck at the same mint in later years.

The Dies

No dies of the early days of the Mexico City mint are known to exist. In fact, very few dies of the hand hammering era have survived from any of the European mints. Most of them were literally pounded to pieces. Only eight examples of mediaeval coining tools are preserved in the Royal Mint Museum in London,⁶ and a small series is found in the Vienna Mint Collection.⁷

Whether dies, or more likely the punches to manufacture dies,⁸ were carried by the Mendoza party when they arrived in Mexico in 1535 is not known from any document. However, it seems reasonable to assume that Mendoza, with his knowledge of mint procedure, would have made provision for the necessary tools. Certainly the punches for the earliest R coins were of Spanish manufacture. The

⁵ TSI, testimony of May 27, 1545.

⁶ W. J. Hocking, *Royal Mint Museum Catalogue*, vol. II, p. 3.

⁷ *Katalog Münzen- und Medaillen-Stempel Sammlung des K. K. Hauptmünzamt in Wien* (1901), vol. I, pp. 23-24.

⁸ On the punches see below pp. 32-33.

lions, castles, and letters are typically Spanish in design, and resemble closely the punches of dies used in Spain at this period. If these earliest Mexican punches were not conveyed to the New World by Mendoza, they certainly arrived shortly after him. It may well be that sample dies were also sent as guides for the die sinkers.⁹

Because of the number of punches used to make a die, no two dies were identical. It was possible for a careful workman to punch the dies quickly and with a minimum of effort; but it was impossible to duplicate exactly the spacing of every detail, given the number of parts which had to be hammered into the die one by one. The punches wore and broke at the edges and through their narrowest sections; the breaks widened and finally only a ragged design of the original was left. The broken punches sometimes continued in use until replacements from Spain could be obtained or substitutes could be made locally. Thus the varying stages of wear of a given punch determine a chronological arrangement of the dies on which it was used, and upon that arrangement this catalogue of the Charles and Johanna series is based.

The preparation of the dies — it cannot be called engraving — was under the care of the die sinker, the *tallador*. The shaping of the steel for punches and dies could have been executed by any skilled laborer, but the tempering, the incision of the design into the die, and any secret trade details, were done by the official himself. That the Spaniards were skilled in working and tempering steel is proved by the fine swords and armor of the period.

The steel for the dies having been forged into the proper shape, the end which was to receive the design of the die was smoothed and

⁹ That punches were manufactured in Spain for use in the New World is proved by a document listing a number of punches sent to the Santo Domingo mint in 1573 (A. G. I. 78-2-1, printed in Medina, p. 134; and in *Catalogue of the Julius Guttas Collection*, p. 487.) Fifteen large letters and a cross, together with sixteen other punches — lion, castle, pieces of crowns, etc. — were to be used in the manufacture of dies for coins of four and two reales, and four maravedies. A second group of letters served for the dies of the one real and two maravedies pieces. (No mention is made of punches for dies of the eight reales size, an additional proof that coins so large were not issued from American mints until after 1573.)

polished. The die sinker then laid out the design. He began by making a center indentation with a prick punch, around which he cut several circles with a compass, guides for the inner and outer beading. The center mark, a small raised dot, can usually be seen on the coins when it is not covered by some part of the design. The die sinker then proceeded to hammer the design, element by element, with the various punches into the untempered surface of the die.¹⁰ Clearly each die was unique. Not only was it impossible to place each punch exactly, but any carelessness in the spacing of the legend resulted either in a gap at the end of it, to be filled by annulets or crosses, or in a limitation of space which resulted in an almost endless variety of abbreviations. Thus REGES, on the obverse, is found as R, RG, REG, RE, RGS, RGES, REGS, and GS; while INDIARVM became INDIARM, INDIARV, INDIAR, INDIA, INDI, IND, and IN.

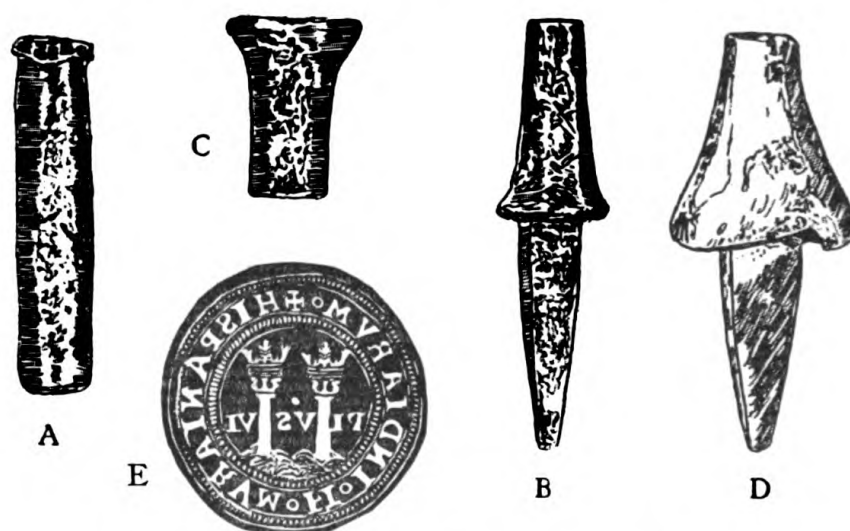
The Coinage

The lower die was sunk into an anvil by means of a tongue at its base which fitted into the block. It was the die with the more elaborate device, the obverse, since it was less liable to be damaged by the repeated blows of striking. It was called the *pila*, or "pile." The upper die, the *troquel* or "trussel," was cut into the end of a rod, receiving

¹⁰ G. MacDonald, *The Evolution of Coinage*, Cambridge, 1910; p. 69. "A common error is the supposition that dies in medieval times were cut directly upon a prepared piece of metal, in the same manner as a seal or intaglio. . . . A die was usually made by the use of a number of irons or punches, each cut to the requisite shape to produce some portion of the design; and these were punched by the die maker into the prepared piece of metal in such a fashion as eventually to make up the complete die. The saving of labor effected by this means is obvious, and it was often used, at any rate in the case of legends, in classical times." Twelve punch designs — circles and crescents of different sizes, dots, etc., — are shown with which the die maker could make the portrait and legend on the short-cross penny of Henry III of England. A little practice would enable an intelligent mechanic to turn out the finished die in a brief space of time and with comparatively little effort. See also Shirley Fox, "Die Making in the Twelfth Century," in *British Numismatic Journal*, First Series, vol. VI (1909), pp. 191-196, quoted by MacDonald.

the direct force of the hammer and thus suffering the greater danger of breaking.¹¹

In use, the blank was laid upon the *pila*, and the *troquel* was held above it while the coiner struck the upper end of the rod with a hammer. A very careful, straight, and heavy blow was necessary to impress the silver blank evenly. Mendoza acknowledged that at the beginning "the workers of the mint toiled very hard but obtained meager results, as the coin continually moved (*la moneda se erraba*), which [then] had to be made over and over again."¹² The dies were movable



HAND HAMMERING DIES AT VIENNA MINT MUSEUM

The upper dies (A and C) were held over the lower dies (B and D) which were set in a hole in an anvil. The designs for the coins were punched into the lower ends of A and C into the tops of B and D. E illustrates how a reverse die of a one real of the LATE SERIES would appear.

so that there is no fixed relation of the obverse of the coins to the reverse. No collars were used on the dies and the breakage rate was high. Virtually no die breaks appear; when a die cracked, it broke,

¹¹ English records show that in hand hammering, fresh dies were issued to provincial mints in the proportion of two reverse (upper) dies for every obverse (lower) die. See MacDonald, *op. cit.*, p. 69.

¹² *Col. de Docs. Ined.* vol. II, First Series, p. 192. Letter of Nov. 18, 1537.

because no collar held the metal together. The short life of a die is illustrated in that nearly every coin examined was from a different pair, although many coins show that they were made from dies made from the same punches.

One of the chief difficulties in cataloguing the varieties stems from the virtual impossibility of listing them by die varieties. The greater part of all hand hammered coins were double and sometimes triple struck. This caused many queer effects in the details on the coins, which were not die details. Double striking can make one of the lions thin, the other fat. It can completely obscure one or more letters of a legend, or it can duplicate them. A coin with the obverse legend ending EGGS in place of REGES can be the result of a double strike; the legend was not cut with that spelling in the die. Similarly, three- and five-legged lions with two tails do not indicate a new die variety.

Variations in individual punch details are a different matter. By a flaw in a letter punch, a tongue on a lion, a break in the left side of a castle, or a slight change in a crown design, the varieties of punches in use to make the dies can be established. The coins have been organized into varieties by this method, and an attempt has been made to place them in the proper order of issuance from the mint.

After the coins were struck they were blanced, a process by which they were cleaned and whitened. They were carefully weighed to ascertain that they averaged sixty-seven reales to the mark. Samples were also taken for assay and for the biennial *encerramiento*; the assayer's mark in the die was of course his guarantee of the purity of the silver content.

IV

THE SILVER AND COPPER COINAGE; METROLOGY

The Silver Coinage

From the opening of the Mexico City mint silver coins were struck in denominations of one-quarter real (cuartilla), one-half (medio real), one (sencillo), two (real de a dos), and three reales (real de a tres).¹ Their proportionate production was regulated by the original decree: one-half of the silver bullion coined was to be in pieces of one real; one-quarter, in pieces of two and three reales; and one-quarter, in pieces of quarter and half reales. From each mark of bullion minted sixty-seven reales in coin were to be obtained. Two reales of this amount was divided among the mint officials as fees.²

Of the coins struck, several were regarded with disfavor by the populace. The pieces of three reales — an unusual denomination — were quickly found to be unsatisfactory since they were easily confused with the two reales pieces. They were struck only for a short time; late in 1537 the viceroy ordered that they be discontinued, and he wrote to the king explaining his action. On November 18 of that year, the king ordered the mint to coin pieces of the larger size of four and eight reales, "if expedient." Allowing time for the order to reach Mexico, and for the mint to make the dies, it was probably in the spring of 1538 before the coins of four reales were issued. A few are known with the mark R of del Rincón, the first assayer.

¹ The denominations and their types were prescribed by the decree of May 11, 1535 which established the mint. See Appendix.

² The mint fee in Spain was only one real per mark; the higher rate in Mexico was due to the difficulties involved in creating a mint. The original decree establishing the mint provided for a fee of three reales, but actually only two were deducted.

Pieces of eight reales were never issued, although an attempt was made to manufacture them. The process of making large blanks, and of striking coins of dollar size by hand hammering was too slow, difficult, and costly for the mint to support. Occasionally, a so-called Charles and Johanna piece of eight reales appears, but to date all have been fabrications.³ Mint officials testifying at the Tello de Sandoval Investigation stated that "pieces of eight reales had been made and their coinage was discontinued inasmuch as it was very difficult, and they were not circulated."⁴

The silver cuartillas were so small (about the size of the United States silver three cent piece of the 1850's and 60's) that they were most unpopular. That only two are known in the EARLY SERIES with mark R, and one with P, probably indicates how few were struck. On November 12, 1540, the viceroy ordered that "regardless of what the proportions were previously," the coinage of the mint was to be one-third in pieces of four reales; one-third in pieces of two reales; and one-third in pieces of one real and one-half real.⁵

The coinage of the cuartilla was thereby discontinued, although many persons complained that the half real was too large a denomination for ordinary purchases. In recognition of the need for money of very small denominations, the queen issued an edict on October 9, 1549, ordering the production of the denominations of one-half, one-quarter, and one-sixteenth real in silver. The one-half real piece was already being struck, and no attempt was made to issue the smaller coins. Cuartillas were not made again until 1794.

The first silver coinage brought some confusion to commercial transactions in Mexico. Before the mint opened, some silver coin had been

³ See Plate XIII, 1 and 3.

⁴ TSI, testimony of May 27, 1545, by Juan Gutiérrez. Similar statements were entered by Francisco del Rincón, the die sinker, on June 5, and by Alonso Ponce on June 9.

⁵ Mendoza ordinance, in Diego de Encinas, *Libro de Provisiones, Cédulas, Capítulos de ordenanças, Instrucciones y cartas... de los señores Reyes Católicos... y Emperador Don Carlos... y Doña Juana, etc.* Madrid, 1596, III, p. 229. Puga, *Provisiones, Cédulas, Instrucciones de Su Magestad, etc.*, Mexico, 1878, II, p. 49, dates the ordinance as November 12, 1549, evidently a misprint.

brought from Spain, and it was circulating at forty-four maravedies per real because of the risk and the expense of importing it. On May 31, 1535, the queen decreed that two months after publication of the edict, all silver coins were to pass at thirty-four maravedies per real, at par with the coins which were to be minted locally. The devaluation of the imported money was the cause of alarm and uncertainty, as the imported reales had been accepted as equal to the tomín of *tepuzque* gold.⁶ The viceregal ordinance of July 15, 1536, which reduced the value of the real to thirty-four maravedies, nonetheless continued the exchange of one real for one tomín. As a result the silver money generally circulated at a discount, in spite of the law. Finally, the queen issued another *cédula* on February 28, 1538, allowing the imported coin to circulate at forty-four maravedies per real until the end of 1538, when they were to be valued at thirty-four maravedies. Eventually the real became accepted at its lower value.⁷

From certain facts it would appear that the LATE SERIES of Charles and Johanna silver coins (at least those with the assayer's marks L and O) were issued from the Mexico City mint from 1556 until 1572.⁸ This cannot be proven, except indirectly, unless further documentation is discovered in the mint records. The silver coinage in Spain proper bearing the yoke and arrows of Isabella I and Ferdinand V was minted through the reign of Charles and Johanna and well into that of Philip II. In fact it was not until Nov. 23, 1566, that Philip ordered a change in the design of the coinage in Spanish mints.⁹ This order also included a change in the shield to include the arms of all the Spanish dominions, as well as those of Hapsburg. That this order was not applied to the American mints can be seen from the first coinage of the Lima mint. The *cédula* for founding the

⁶ *Actas de Cabildo*, July 5 and 7, 1536.

⁷ See Meek, *op. cit.*, p. 55.

⁸ The theory that the Mexico City coins with pillars and Charles and Johanna's names were minted until 1572 was brought to the attention of the writer in 1951 by A. J. S. McNickle who has been studying the coinages of Philip II. On the same theory, see Tomás Dasí, *Estudio de los reales de a ocho*, Valencia, 1950, I, pp. 94, 102 II, p. 55.

⁹ Herrera, *El Duro*, Vol. 1, p. 13.

mint in Lima, dated August 21, 1565, described the design to be used,¹⁰ which although carrying Philip II's name, still bore the pillars and motto design, similar to that used in Mexico City for Charles and Johanna, with the mint mark P for "Peru". This design is known in a complete series of denominations from one-fourth to eight reales.

It was not until March 8, 1570, that Philip ordered a new design put into use in American mints.¹¹ On June 28, 1570, the Council of the Indies ordered that the sum of 260 ducats be paid to one Juan Paulo Roxini, *escultor*, for steel for and manufacture of the *marcas* and *punzoneria* he had made for the new coinage of New Spain and Peru.¹² The arrival of these new dies and punches in Lima was acknowledged by the viceroy Toledo of Peru in a letter to Philip II in 1572.¹³

When the mint at Potosí, Peru, began operations in 1575, the design with the new shield was used with the cross with castles and lions in the quarters on the reverse instead of the pillars and motto.

Although the theory that the Charles and Johanna LATE SERIES L and O coins were made until 1572 cannot be directly proved, it can however be supported by the following facts or deductions:

1. Philip did not change the pillars design when the Lima mint was opened at his order of Aug. 21, 1565.

2. The first order authorizing a change in design in American mints was dated March 8, 1570. The engraver was paid for the new dies after June 28, 1570, and Lima announced their arrival there in 1572. It seems reasonable to suppose that no mints could alter the coinage design, without orders from the ruler.

3. The Mexico City Charles and Johanna coinage Late Series L assayer was very likely Luis Rodriguez whose death was announced on May 30, 1570 before the Council of the Indies in Spain.¹⁴

¹⁰ J. T. Medina, *Monedas coloniales hispano-americanas*, Santiago de Chile, 1919, pp. 169-172; A.G.I., 109-7-5.

¹¹ A. Herrera, *El Duro*, Madrid, 1914, I, p. 13.

¹² Herrera, *op. cit.*, II, p. 493; (where name is given as Proxini); Medina, *op. cit.*, p. 43; A.G.I., 139-1-12.

¹³ Medina, *op. cit.*, p. 155, no. 26.

¹⁴ Medina, *op. cit.*, p. 43; A.G.I., 140-7-32.

The Copper Coinage

The decree for the founding of the Mexico City mint set no design for the copper coinage as it had for the silver. Rather, it ordered the viceroy, as "a person who . . . has had experience in this matter, having been our Treasurer of the mint of Granada," to order the design and metal for the copper coins, to have them minted, and to send a report on them to the Council of the Indies.

It would appear that both the viceroy and the new mint officials were too busy to plan and execute the orders for the copper pieces until mid-1542.¹⁵ Certainly the necessity existed; the discontinuance of the silver *cuartilla* left the country without coins of small denomination. Since most of the minor market transactions were in terms of prices of less than a half real, the copper pieces would have filled this need. As a matter of fact the Indians disliked copper coins, and writers on the subject all agree that the natives used various types of exchange media other than coins.¹⁶

The copper pieces known to us as the "Santo Domingo type," and which are still excavated in Santo Domingo and Puerto Rico, were probably used to some extent in New Spain. They had been authorized for the island by Ferdinand on December 20, 1505, and again by Johanna on May 10, 1531.¹⁷ They were struck under contract at the mint of Seville or of Burgos, possibly at both. The design, pictured in the catalogue (see p. 127), shows crowned pillars between the letters S and P on the obverse, and a crowned Y ("Ysabel") between F and 4 on the reverse. No pieces of one or two maravedies are known to the author.

On February 28, 1538, Charles issued a decree prohibiting the

¹⁵ Orozco y Berra, *Diccionario Universal de Historia y de Geografía*, Mexico, 1853-1855, V, p. 913.

¹⁶ Cf. Meek, *op. cit.*, pp. 15-31.

¹⁷ *Col. de Docs. Ined.*, Second Series, V, p. 114. Antonio Vives y Escudero, "Reforma Monetaria de los Reyes Católicos," *Boletín de la Sociedad Española de Excursión*, Sept., 1897, p. 117. José Toribio Medina, "La Primera Casa de Moneda que hubo en América," *Revista Chilena de Historia y Geografía*, I (1911), p. 355-6.

coinage of gold and copper in the colonies.¹⁸ Since the Mexico mint had not begun to coin copper (and gold was not considered), the decree served only to delay any plans for the copper coinage which Mendoza had formed. The town council of Mexico City discussed the desirability of copper coinage at various times, and the minutes of July 30, 1540, show that different opinions were current. On April 17, 1542, the *Cabildo* proposed that copper money should not be struck and circulated as long as silver money of small value was in production.¹⁹ In spite of this, the viceroy authorized the copper coinage some ten weeks later. It is safe to assume that no copper was struck at the Mexico City mint until after the viceroy's edict of authorization of June 28, 1542.²⁰

The first copper coins were struck from dies made with the first series of punch designs with which the EARLY SERIES G, F, and P dies were cut. The square K of the obverse is distinctive. The four maravedíes (cuarto), is the only denomination known of this series. The pieces do not show an assayer's initial; it was not necessary to assay the metal since it contained no silver.

Before many of these coins could be struck, the third series of punch designs arrived from Spain. The details of the die design were changed, and were now similar to the dies of the LATE SERIES G coinage. The many varieties of obverse and reverse arrangement of punch details are shown on page 130. The coppers of this series are known in denominations of four and two maravedíes. It was testified in 1545 that the following copper coins had been struck: four maravedíes, two maravedíes, and that patterns of one maravedí had been made although none had been issued.²¹ No pieces of one maravedí are known.

As soon as the copper coins were issued the Indians refused to accept them. The viceroy issued strict orders enforcing their circulation, but even the strictest punishment could not prevent the Indians from

¹⁸ *Docs. Ined.*, Second Series, V, p. 114.

¹⁹ *Actas de Cabildo*, IV, pp. 204-5 and 278-9.

²⁰ See p. 30, note 4, and Pradeau, *Numismatic History of Mexico*, p. 39.

²¹ TSI, testimony by the vice-treasurer on June 3, 1545.

throwing them into the gutters or into Lake Texcoco "that they might never more be seen."²² Now, some four hundred years later, the coppers are being excavated from the mud of the old lake bed during drainage operations. Most of the copper pieces examined came from this source, thickly caked with hard grey mud in which they had reposed since the sixteenth century.

The Audiencia at Mexico City, in a letter to the king dated March 17, 1545, agreed that copper money should still be made;²³ and the town council minutes of August 16, 1546 mention "the copper money that is made in New Spain."²⁴ However, at least by the meeting of March 6, 1550, the members of the *Cabildo* had agreed that copper money should be discontinued because of its misuse by the Indians, who apparently were still throwing the pieces to the four winds.²⁵ The coining of copper was probably suspended about 1551 or 1552, and it was officially outlawed by the royal decree to that effect of 1565.²⁶ Copper coinage was not again attempted in New Spain until 1814.

The history of copper coinage in Mexico was epitomized by Suárez de Peralta, who wrote in the sixteenth century:

For a long time, at least up to 1579 when I left New Spain, . . . the smallest and most ordinary coin given [as alms] to the Spaniards is the half real of silver because there have not been any [copper] cuartos, and the natives do not know what they would be like. Thus, when I arrived in Spain, . . . and saw cuartos and learned of their circulating value, I was amazed and could not help ask, 'Is it possible that this coin has a value and that one may purchase food with it?'

I remember hearing it said that Viceroy Mendoza had a large quantity of cuartos coined, which he ordered accepted, and they circulated; and this coinage must have been the grossest stupidity

²² Pradeau, *op. cit.* p. 38, citing Torquemada, *La Monarquía Indiana*, Book 5, chapt. XIII, p. 1.

²³ Del Paso y Troncoso, *Epistolaria de Nueva España*, Second Series, IV, p. 195.

²⁴ *Actas de Cabildo*, V, p. 148.

²⁵ *Ibid.* V, p. 292-3.

²⁶ *Recopilación*, IV, tit. 23, ley 3.

of the land, since the Indians never wished to receive them, and had no remedy. Instead of accepting the coins, the Indians secretly gathered them and dumped them into the lake, until they put an end to them, and none were seen. When this was realized, no more were ever made.²⁷

Metrology

During the sixteenth century, the weight of individual coins was not specified by law. In all mints, reliance was placed on the principle of averages. The decrees of the period prescribe that a certain number of coins be struck from a stated quantity of metal.²⁸ Any particular piece might be heavy or light as long as the lot in which it was struck weighed true to the mark.²⁹

In the decree establishing the Mexico City mint it was ordered that 67 reales in coin be struck from each mark weight of silver.³⁰ The tests conducted during the Tello de Sandoval investigation confirmed the ratio of 67 reales to the mark. Of this three reales were to be apportioned among the mint workers in fees. During the investigation, the officials were dividing two reales. The fineness of the bullion was set at 11 *dineros*, 4 *granos*, the equivalent of 930.51 thousandths.³¹

The process of weighing the silver coins was described as it was performed at the mint on June 13, 1545, before the visitor Tello de Sandoval and his entourage. Esteban Franco, the assayer of the foundry, was called to the mint to assay the coins of the *encerramientos* and to check the current output by weight.

²⁷ Don Juan Suárez de Peralta, "Tratado del Descubrimiento de las Yndias," *Noticias Históricas de la Nueva España*, Mexico, State Dept. of Education, 1949, pp. 96-7.

²⁸ MacDonald, *The Evolution of coinage*, p. 70.

²⁹ See R. I. Nesmith, *ANS Museum Notes*, I, pp. 93-4.

³⁰ In 1349, Alfonso XI, wishing to re-establish the Roman system of weights, had two mark standards brought to Spain, one from Cologne, the other from Troyes, France. The former was used in weighing metals; the mark of Troyes served to weigh all other matter. The mark of Cologne was equivalent to .507 pound, or 230 grams.

³¹ The *dinero* was a Spanish measure of assay in testing the fineness of silver. Absolute purity was counted as 12 *dineros*, each of which was divided into 24 *granos*. The fineness 930.51 obtained in the silver struck in Mexico until 1729.

The money was kept in piles of four, two, one, and one-half reales. Franco scooped two handfuls (*dos almuerzadas*) of four reales pieces from the pile. On one side of the scales he placed the weight of one mark (which had been certified as correct) and one silver real, and on the other he laid 17 pieces of four reales. They were found to be overweight. He then took another handful from the opposite side of the pile and again weighed seventeen pieces, which also were somewhat overweight.

Moving to the pile of two reales coins, he repeated the process by balancing 34 pieces of that denomination against the mark and one real. Going through the procedure six times in all, he found the coins overweight on four occasions, underweight on one. Franco then weighed the one real coins in lots of 67 against the one mark weight. Four lots taken from different parts of the pile were each overweight. The one-half real coins, 134 to the mark, were heavy in two cases, exact in one. There is no mention in the report that any copper coins were weighed.

On June 22, 1545, certain coins owned by a merchant were brought to the mint and weighed in the same manner, and were found to be overweight "rather generously."³²

Most of the coins examined by the author, although in good to fine condition, were light in weight, even though the earliest at least evidently were struck heavy. A small percentage showed signs of having been filed around the edges, but surprisingly few were holed. It seems probable that the heavier coins disappeared from circulation while the lighter survived.

Before circulation the coins should have averaged in weight as follows:

$\frac{1}{4}$ real	at 268 to the mark	.858 grams
$\frac{1}{2}$ real	at 134	1.716
1 real	at 67	3.432
2 reales	at 34 to the mark & 1 R.	6.865
3 reales	at 22 & 1 R.	10.296
4 reales	at 17 & 1 R.	13.731

³² TSI, testimony of June 22, 1545.

The EARLY SERIES coins of R, G, F, and P are so rare that the weights of the few studied prove nothing, except that the best examples weighed near the standard. They are:

$\frac{1}{4}$ real R	$\frac{1}{2}$ real P	1 real R	2 real R	3 real R	4 real P
.85	1.68	3.37	6.79	10.10	13.57 grams

In the case of the LATE SERIES so many pieces are known that it was possible to select the coins showing the least wear to submit to weighing, and in two instances hoards were available to weigh in lots so that the averages could be obtained in the same manner as originally. A hoard of 25 pieces of 4 reales of series $\overset{\circ}{M}$ -O was weighed with the following interesting results:

8 coins were standard (13.73 grams) or better, the heaviest weighing 13.95 grams. The 8 pieces totaled .53 grams overweight.

17 coins weighed light, from 13.72 down to 13.44 grams. The 17 pieces totaled 1.61 grams underweight.

The 25 coins were therefore a total of 1.08 grams underweight, or .0432 grams per coin in average. Even slight wear would account for the discrepancy. When 9 of the best pieces apart from the hoard were added to it to make a lot of 34 coins, and they were weighed 17 pieces to one mark and one real, even as Franco had weighed them four hundred years before, the lot of 34 was light 1.60 grams. This is less than $\frac{1}{4}$ real light on 67 reales in coin, or a shortage of .80 gram on one mark of 230 grams.

Part of another hoard of one real LATE SERIES pieces came to the writer in quantity, and was weighed in lots of 67 to the mark with the following results:

208 pieces	1 real $\overset{\circ}{M}$ -O averaged	3.312 grams.
42	1 real O- $\overset{\circ}{M}$	3.30
43	1 real $\overset{\circ}{M}$ -L	3.32
34	1 real L- $\overset{\circ}{M}$	3.27
67	1 real L-M	3.28
76	1 real M-L	3.30

The entire 470 coins of assayers L and O averaged 3.304 grms. per l real. All of these showed signs of considerable circulation, and from the fact that they were found buried with many coins of Philip II, they could have circulated for years. None were holed.

The copper coins were generally in such poor condition that they were not systematically weighed. Eleven pieces in better condition in the collection of the American Numismatic Society weighed between 5.23 and 6.63 grms., averaging 5.75 grms. Thirty-six of these coins, the number struck from one mark, would then weigh 207 grms., a total of 23 grms. light. However considerable weight was lost through wear and corrosion.

CATALOGUE

THE CATALOGUE

The coins of the Charles and Johanna series are here listed in two main groups, EARLY SERIES and LATE SERIES, and within these groups by assayer's marks chronologically, as far as can be determined. It was evident that the two groups had to be treated differently. The coins of the EARLY SERIES are quite uncommon – of some only one example has been found. Every piece known to the author has been listed. Many small variations in design and legend have been considered in establishing the list of varieties. The provenance has been given for every piece seen, and brief notes concerning the distinguishing characteristics of each accompany its illustration. Although every die is not represented, a close parallel of every coin known can be found in the catalogue.

The LATE SERIES coins, however, could not possibly be handled in the same manner. Some 2000 pieces have been examined, but inasmuch as each die is a variety in itself, it was necessary to classify them according to changes of specific die details. The obverse varieties have been differentiated on the basis of a change in the design details of either the crown, or the lion, or the castle, or the upper edge of the shield, or even some combination of these. The individual variations of these features are explained in the commentary to the Table of Design Varieties for the LATE SERIES, p. 101. The reverse varieties are differentiated according to the changes of design of the small crowns on the pillars as well as by their relative size. Since in the case of the one-half real pieces no lions and castles appear, and many of them are in poor condition, they have been classified by the relative location and arrangement of the mint mark, assayer's mark, and annulets on the obverse, and by the form of the motto PLVS on the reverse.

An examination of the enlarged photographs of the coins* showed clearly that the dies were not engraved, but had been formed from the impressions of a number of punches, each bearing one element of the total design. The commentary on the EARLY SERIES will illustrate in some detail the type of punches used. It also became evident that three different punch design series were employed. These developed from Gothic to Roman, from KAROLVS to CHAROLVS to CAROLVS, from reverse motto on a panel to reverse motto free on background. Such observations made it possible to plot a rough chronological scheme for the dies. Particularly in the case of the first series of punch designs there is evidence of worn and broken punches for which substitutes were made. In very few instances have two coins been found struck from the same pair of dies, so that the number of dies actually must have been enormous.

The key to the catalogue numbers will enable one to locate in the catalogue any silver coin of either the EARLY or LATE SERIES. A given piece can be checked according to denomination and to the form of the assayer's mark and the mint mark. The resultant number obtained from the key refers to the listing of that piece in the catalogue, where its obverse and reverse types and legends are noted. Some denominations are unknown for some assayer's marks, but numbers (in italics) have been assigned to them in case any examples come to light. Numbers 27 to 30 have been omitted to provide for possible future additions to the EARLY SERIES. A brief summary listing of the copper coinage completes the catalogue.

* See p. 3.

KEY TO CATALOGUE NUMBERS
OF SILVER COINAGE

THE EARLY SERIES

R-G-F-P

1536-1542 (?)

	$\frac{1}{4}$ r.	$\frac{1}{2}$ r.	1 r.	2 r.	4 r.	3 r.
R between pillars (on the reverse)	1*	2	3	4	6	5
G between pillars (on the reverse)	7	8	9	10	11	
$\overset{\circ}{\underset{\circ}{M}}-\overset{\circ}{\underset{\circ}{F}}$	12	13	14	15	16	
$\overset{\circ}{\underset{\circ}{P}}-\overset{\circ}{\underset{\circ}{M}}$	17	18	19	20	21	
$\overset{\circ}{\underset{\circ}{M}}-\overset{\circ}{\underset{\circ}{P}}$	22	23	24	25	26	

on obverse
divided
by shield

* See p. 57 of the catalogue and p. 136 of the appendix for proof that this coin belongs to this series despite the absence of the assayer's mark R.

4*

THE LATE SERIES

G-A-R-S-L-O

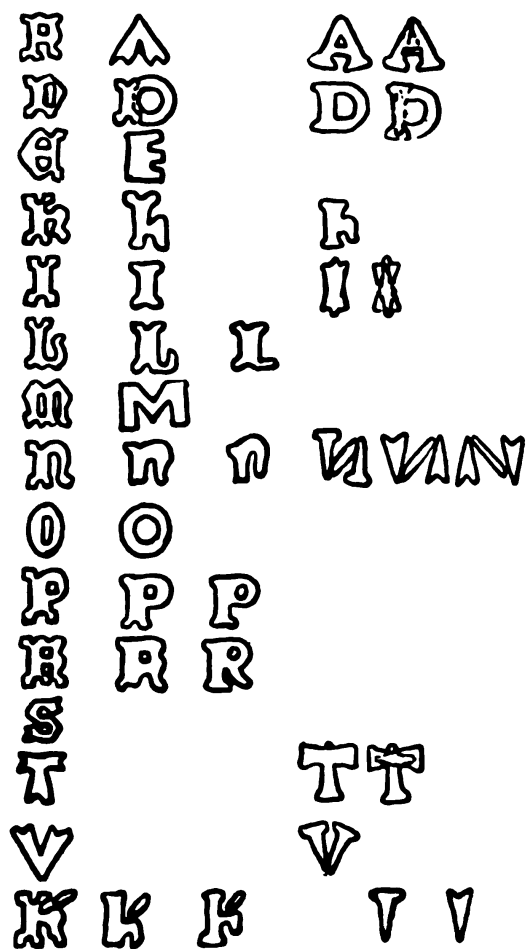
1542 (?) - 1570

	$\frac{1}{2}$ r.	1 r.	2 r.	4 r.
$\overset{\circ}{M}-\overset{\circ}{G}$	31	32	33	34
$\overset{\circ}{M}-\overset{\circ}{G}$	35	36	37	38
G- $\overset{\circ}{M}$	39	40	41	42
G-M	43	44	45	46
M-G	47	48	49	50
$\overset{\circ}{M}-G$	51	52	53	54
M-A	55	56	57	58
A-M (or A- $\overset{\circ}{M}$)	59	60	61	62
$\overset{\circ}{M}$ -A	63	64	65	66
M-R	67	68	69	70
R-M	71	72	73	74
M-S (or $\overset{\circ}{M}$ -S)	75	76	77	78
L-M	79	80	81	82
M-L	83	84	85	86
$\overset{\circ}{M}$ -L	87	88	89	90
L- $\overset{\circ}{M}$	91	92	93	94
O-M	95	96	97	98
M-O	99	100	101	102
O- $\overset{\circ}{M}$	103	104	105	106
$\overset{\circ}{M}$ -O	107	108	109	110

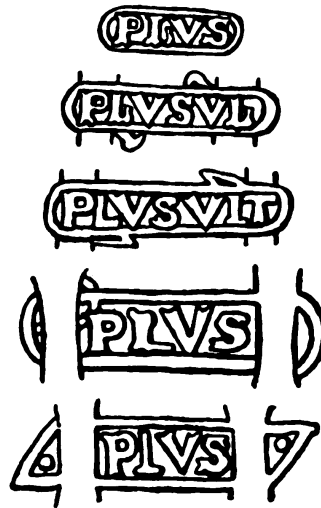
THE EARLY SERIES

R

The earliest output of the Mexico City mint consisted of coins with the assayer's mark R. These were struck from dies formed from the first series of punch designs. This series of punches consisted in part of the fifteen letters necessary for the legends of both obverse and reverse, the mint mark, and the assayer's mark. These letters along with the design of the other punches in the series are illustrated in the figures below.



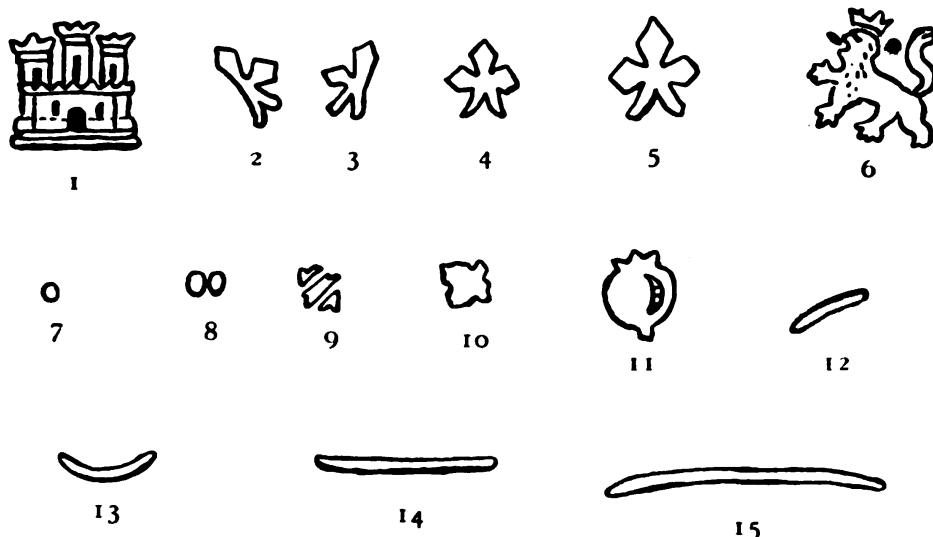
As a result of constant use the letter punches often broke. In their original form they were Gothic letters cut in Spain as shown in the first column of the figure on page 53. The earliest coins (1536) have the largest number of Gothic letters in the legends. As letters broke, crude copies were cut in the mint by native workers. Examples of these can be seen in the columns to the right in the figure. Those shown at the furthestmost right are the substitutions found on the last of the R coins. These substitutes were made with the tack and wedge shaped punches shown at the bottom. No punch existed for the letter K. When that letter was needed an upper arm was added separately to an H.¹ A smaller group of letters, five in number, served for the reverse motto, an abbreviation of *plus ultra*. The motto appeared on an oval panel in front of the pillars. Gradually the panel became elongated, moving behind the pillars, and at the end of the series developing into a rhomboid (no. 6d).



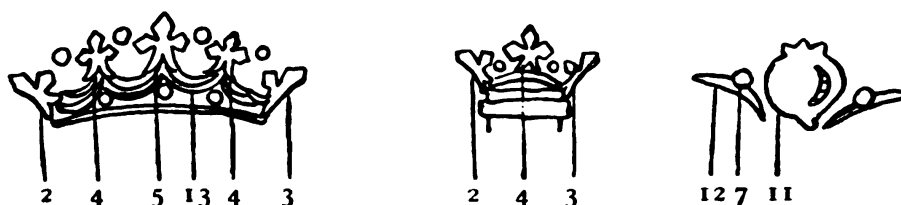
The design of the obverse and reverse types was accomplished through the use of twelve other punches in the series. The rondule (7) was used to separate words, denote the denomination, and to combine

¹ The Gothic *h* was misread as L by the compiler of the Vidal Quadras y Ramon catalogue.

with other punches to form the obverse crown and pomegranate. Another device to separate words was punch 9 which is often found quite worn (see 10).



The beading forming the border on both obverse and reverse was stamped with a punch of two rondules (no. 8) in the use of which one rondule was rested in a bead of the first impression to guide the position of the second, etc. A single punch, or perhaps several, was used in the manufacture of the lion and of the castle in the obverse die. Both obverse and reverse crowns employed the same parts (no. 2-5) as well as various lines and curves (nos. 13-15).



The pomegranate consisted of the fruit (no. 11) and the leaves (nos. 7 and 12). The manner in which all these punches were combined to produce the finished dies can be seen by examining their reproductions on the overlays to the enlarged photographs of the one real coin of this series between pages 56 and 57.

ENLARGED
ONE REAL EARLY SERIES

R No. 3

Showing use and placement of punches
in first series of die punches





ONE SEVENTH STREET AND
R. N. JOHNSON
(See for further information)



ONE REAL EARLY SERIES

R No. 3 Obverse

(See p. 55 for punch design numbers)



ONE REAL EARLY SERIES

R No. 3 Reverse

(See p. 55 for punch design numbers)



ONE YEARS ALREADY SHRIEENO
R Nostraverson R
(See list for Dutch registration and map)



EARLY SERIES

R

Cuartilla

I.



CAROLVS·BT·IOHNA
HI·SPANIA·BT·IRD

ANS (Wayte Raymond coll.), 18 mm., .85 grms.

No assayer's mark, but the details of design definitely place it under R. Large K on obverse for KAROLVS, I on reverse for IOHANA, the design prescribed for silver cuartillas in decree establishing mint. Letter A on reverse is already a substitute for original Gothic punch. Nos. 1 and 1a, as well as no. 22, are the only coins of the Charles and Johanna series without pillars. Note the spelling CAROLVS on both varieties, unusual in the EARLY SERIES.

1 a.



(actual size)



(enlarged)

•CAROLVS•ET•IO(AN)
•ET•INDIAN•D•GR

Museo Nacional de Historia, Mexico, 16 mm., .75 grms.

Obverse similar to 1, but no rondule between arms of K. Reverse differs in legend, omitting HISPANIE, adding D. GR (*Dei Gratia*) and in the omission of the rondules above and below the M's at either side of the crowned pillar.

One-Half Real

2.



(actual size)



(enlarged)

X:KROLVS:ET:IOHANN:RE:
X:ISPANIE:ET:INDIARVM **PLVS**

Lucio Laguette coll.

Crowned KI on obverse, the I Gothic style script. On reverse crown-
 ed pillars behind motto PLVS on panel. Two rondules in pale separate
 words. Note KA or KROLVS and ISPANIE in legends. Additional
 examples in Banco Nacional de México, S. A., and ANS (Wayte
 Raymond coll.), 20 mm., 1.62 grms.

One Real

Obverse, crowned shield with emblems of Castile, Leon, and Granada. Mint letter at each side of shield with rondules above and below. Reverse, crowned pillars of Hercules, connected by panel with motto PLVS, PLVSV, or PLVSVL. Below, assayer's mark R. No mark of denomination. Two rondules between words. Obverse legends on 3 c and 3 e end with letter appearing to be V, but probably a Gothic D (for *Dei*). The breakdown in original letter punches can be seen by following the changes in L, O, A, N, and M.

3.



**KAROLVS X ET IOHANNES
X HIS PANIE X ET INDIARVM PLVSV**

O. K. Rumbel coll., 24 mm., 3.36 grms.

Eleven rondules above crown. Original Gothic A on obverse, Mon reverse. Crude I on obverse, A on reverse. Motto PLVSV.

3a.



KAROLVS X ET IOHAN
X HIS: PANIE X ET INDIARVM **PLVSV**

José Tamborrel coll.

Four rondules above crown. Obverse legend ends IOHAN. Motto PLVSV. Additional examples in Clyde Hubbard coll., 24 mm., 3.12 grms; 25 mm., 3.32 grms.

3b.



:KAROLVS:X:ET:X:IOH
:X:HIS:PANIE:X:ET:INDIARV **PLVS**

Alfredo Porraz coll., 26 mm., 3.25 grms.

Obverse legend ends IOH. Motto PLVS. Additional examples in Banco Nacional de México, S. A.; Clyde Hubbard coll., O. K. Rumbel coll. (obv. legend ending IOHA); and G. C. Martin coll. (IOHA), 25 mm., 3.28 gms.

3c.



KAROLVS:ET:IOHANN:V **PLVSVL**
:X:HISPANIE:ET:INDIARVM

Alfredo Porraz coll., 25 mm., 3.25 grms.

Obverse legend ends in Gothic D. Motto PLVSVL. M and O are now not Gothic. Additional examples in Lucio Laguette and A. R. Perpall colls.

3d.



:KAROLVS:ET:IOHA **PLVSVL**
:X:HISPANIE:ET:INDIARVM

A. R. Perpall coll., 25 mm., 3.29 grms.

Crude A on obverse. Motto PLVSVL. An example with reverse 3e. is in O. K. Rumbel coll.; with rev. 3b in F. S. Angert coll., 25 mm., 3.29 grms.

3e.



KAROLVS: ET: IOHANNES: V **PLVSVL**
R: HISPANIE: ET: INDIARVM

H. L. Freeman coll., 25 mm., 3.32 grms.

Legend as 3c, but no annulets after M ending reverse legend. Crude D, made with I and O punches, substitutes for Gothic D in INDIARVM. Motto PLVSVL. Examples also in ANS (Wayte Raymond coll.), 24 mm., 3.14 grms.; Humberto F. Burzio coll., Clyde Hubbard coll., 25 mm., 3.24 grms.

Two Reales

The design is generally that of the one real coin. Above the reverse panel are two rondules to indicate denomination. The examples noted have original Gothic letters H, K, S, and L (in part). All other letters are crudely recut. If earlier pieces do exist, they will be identified by the Gothic style of the legend. The motto of all pieces seen is PLVS.

4.

**:KAROLVS:X:ET:IOH.....****:X:HI:SPANIE:X:ET:INDIARVM****PLVS**

F. C. C. Boyd coll. (Guttag 2424), 27 mm., 6.64 grms.

Crude block M in reverse legend.

4a.

**KAROLVS:X:ET:XIOHAN****X:HI:SPANIE:ET:X:INDIARVM:R****PLVS**

A. R. Perpall coll., 28 mm., 6.71 grms.

The Gothic L is now lost, a crude form of the letter supplanting it.

4b.



KAROLVS: X: ET NIOH ······

: X: HISPANIE: X: ET: INDIARV: M

PLVS

Museo Nacional de Historia, Mexico

The final M of the reverse legend is original Gothic. Additional examples in V. Q. R., no. 6912 (pl. 26,20) (reading PLV, but original was probably PLVS); Fonrobert 6216, and Ulex 1207.

Three Reales

This unusual denomination was struck only in this series. Discontinued in late 1537 to be replaced by coins of four reales, it was never struck again. The number of original Gothic letters has been taken to determine the order of issuance. The motto is consistently PLVSVLT except on 5 d.

5.



†:KAROLVS:ET IOHANNES DEI GRA:V(?)
 †:HISPANIA:ET INDIARVM REGES

PLVSVLT

F. J. Angert coll., 35 mm., 10.00 grms.

Legends of this coin and 5 a, the two earliest of this denomination known, are the most nearly complete of the series, since obverse crown remains within beaded circle. Single or double rondule between words. Waves may have been added to coin after striking.

5a.



†:KAROLVS:ET:IOHANN:DAIGRA:R
:A:HISPANIE X:ET:INDIARVX:M

PLVSVL

F. J. Angert coll., 35 mm., 9.90 grms.

M and D on obverse and reverse are later punches, the latter manufactured from I and O.

5b.



KARO...ET:IOHANN:?:
?:HISPANIE X:ET:.....RVX:M?

PLVSVL

Salvador Illanes coll.

Gothic O gives way to cruder type. The lion punch is a native imitation of the original Spanish lion. Obverse legend may end in a Gothic D.

5c.



KAR...VS:ET:IOHANA:
:A:HISPANIE:X:ET:INDIARVX:M **PLVSVIT**

F. C. C. Boyd coll., 31 mm., 9.90 grms.

New forms of A and N now replace Gothic type. Additional examples in ANS, 32 mm., 9.71 grms.; Hispanic Society of America, 31 mm. 9.75 grms.; Casa Pardo coll., 32 mm., 10.10 grms.; P.K. Anderson coll. (Huth-Gutttag 2423 A); J. J. J. Dos Santos coll., 3655; V. Q. R. 6911 (pl. 26, 19).

5d.



KAROLVS X:ET:IOHANA:
:X:KI·SPANIE:X:ET:INDIARVM **III PLVSVL**

Museo Nacional de Historia, Mexico, 31 mm., 9.50 grms.

Undoubtedly last design of the three reales coin. Only H, K, R, and S remain of original Gothic letters. Note the three strokes which have replaced dots over reverse panel. Motto, PLVSVL. Another example in F. J. Angert coll., 30 mm., 10.10 grms., whose legend is that reproduced here.

Four Reales

The coins, the largest issued by an American mint until the eight reales pieces of Philip II, were not struck until those of three reales had been discontinued, appearing probably in 1538 toward the end of the term of office of Francisco del Rincón. The letter punches are plainly not Gothic. The earliest illustration of one of this issue appeared as a woodcut entitled "Realen van vieren van gewichte aladenant" in a book of instructions to money changers printed by Kornelis van Alkemade, Antwerp-Rotterdam, 1633. Heiss reprints the illustration as does Dasí. E. H. Adams, in *The Coin Collector's Journal*, November 1934, illustrated a counterfeit piece of eight reales of similar design. The fabricator used Heiss' engraving as a pattern, but copied the many errors of the woodcut, creating a design and denomination never issued by the mint at Mexico City. J. T. Medina illustrates a piece of four reales of the EARLY SERIES with assayer's mark P (*Las Monedas Coloniales Hispano-Americanas*, p. 66, no. 2), actually an R defaced by wear or weakly struck.

6.



:KAROLVS:X:ET:IOHANA
:X:HISPANIE:X:ET:INDIARVM:RE (PLVS)

O. K. Rumbel coll., 32 mm., 13.03 grms.

Two rondules follow ET on reverse. Another example in L. S. Forrer coll. (*The Numismatist*, July 1950).

6a.



**:KAROLVS:ET:IOOHANA PLVS
:HISPANIE:ET:INDIARVM:**

Lucio Laguette coll.

Number 9 punch between rondules following ET on reverse.
IOOHANA and multiple rondules are result of double striking.

6b.



**:KAROLVS:ET:IOHAN: PLVS
:HISPANIE:ET:INDIARVM:RE:**

Clyde Hubbard coll., 30 mm., 13.35 grms.

Similar to 6, but obverse legend ends IOHAN: Another example,
Salbach 3219, not illustrated.

6c.



**:KISPANIE:X:ETX:INDIARV:M:RX
PLVS**

Clyde Hubbard coll., 30 mm., 13.45 grms.

Obverse legend as 6b, but reverse legend ends with R. Number 9 punch and two rondules after ET on reverse.

6d.



**:KAROLVS:X:ET:IOBANN
:X:KIS:PANIE:X:ET:X:INDIARV:M**

**4
/ PLVS 7**

Alfredo Porraz coll., 32 mm., 12.75 grms.

Reverse motto panel has changed to a rhomboid, pointing right. Other examples in José W. Gómez coll.; J. T. Medina, *Las Monedas Coloniales Hispano-Americanas*, p. 66, no. 2.

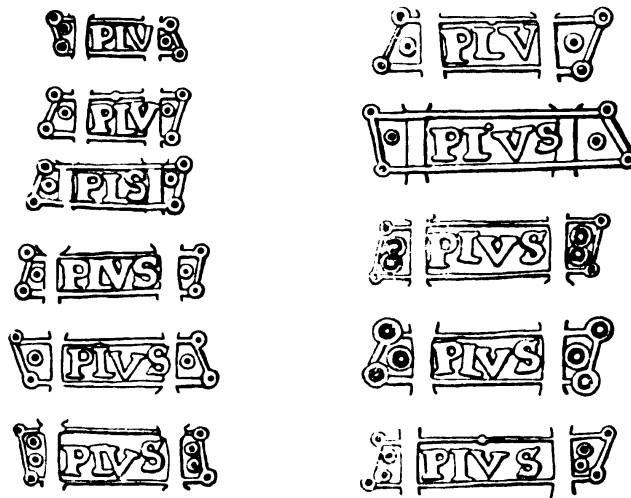
EARLY SERIES

G-F-P

The general design of the coinage with assayer's marks G, F, and P did not change from that of mark R, but a new (the second) series of punches was used to make the dies. It is likely that the set of punches were cut in Mexico by skilled Indian workers, for they are not as delicate nor as Spanish in style as those used for the earliest dies. The castle is not Spanish, but is rather like an Aztec ideograph. The lion is no longer crowned, and appears to have been designed by a native unfamiliar with the animal. Both lion and castle are now impressed with a group of punches, the design being too difficult to cut on one punch in entirety. For the lion, one punch included the body and head, while the legs and tail were added separately. The pomegranate is reduced in size, to fit a smaller triangle at the base of the shield. No waves appear at the base of the pillars.

The lettering and mint mark were made with a redesigned font of punches, now of Roman rather than Gothic type. Various stops divide words, such as rondules in annulets, quatrefoils, crosses and lozenges. The legend varies in length and spelling.

The shape of the reverse panel has altered from an oval, used under R, to a rhomboid, placed behind the pillars, pointing either to the left or to the right. At the corners of the panel, annulets or rondules with annulets appear, as they do singly or in pairs on the ends of the panel, beyond the pillars. The motto never appears in full because of lack of space. It was abbreviated to PLS, PLV, and PLVS. Only on the R coins, where the panel appeared in front of the pillars, was there space for PLVSVLT to be inscribed.



FORMS OF REVERSE MOTTO ON
G—F—P

SECOND PUNCH DESIGN SERIES

FOR EARLY SERIES G-F-P

A D E F G H I K L M N O P R S T V

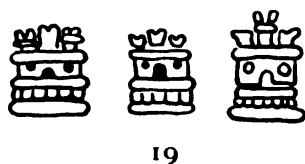
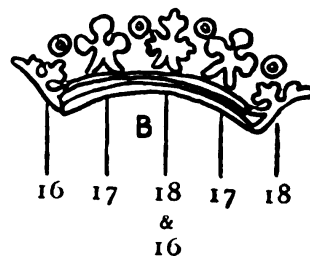
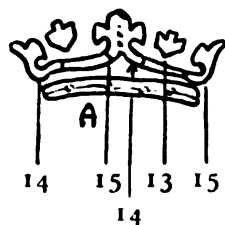
1

PIVS

2

4

3



1. Letter punches (17) for legends. 2. Letter punches [for reverse motto
3. Denomination indication. 4. Rondule. 5. Rondules for beading. 6. An-
nulet. 7. Rondule in annulet. 8. Lozenge. 9. Mascle. 10-11. Quatrefoils.
12. Cross potent. 13-18. Crown decorations. 19. Castle. 20. Pomegranate.
21. Lions.

ENLARGED
TWO REALES EARLY SERIES

P - M No. 20

Showing use and placement of punches
in second series of punch designs





U. M. I. C. H. I. G. A. N.
S. T. M. O. R. E. V. I. E. R. E. S. E. A. R. T. A. S. E. R. I. E. S.
a. b. c. d. e. f. g. h. i. j. k. l. m. n. o. p. q. r. s. t. u. v. w. x. y. z.



TWO REALES EARLY SERIES

P-M No. 20 Obverse

(See p. 74 for punch design numbers)



TWO REALES EARLY SERIES

P-M No. 20 Reverse

(See p. 74 for punch design numbers)



(See right hand design in notes)
B.W. 17.02.30 N. Head
S.M. 17.02.30 N. Head



EARLY SERIES

G (Juan Gutiérrez)

Of this group the coins of Gutiérrez are the earliest, as is seen in the position of the assayer's mark, on the reverse between the bases of the pillars. Only the first coins, those of del Rincón, are similar.

Cuartilla

7. No example located.

One-half Real

8.



(enlarged)

⌘KAROLVS⌘ET⌘IOHAN
⌘HISPANIARVM⌘ET⌘IN **PLV**

O. K. Rumbel coll., 19.5 mm., 1.40 grms.

Five annulets above crown, quatrefoils between words in legend. Rhomboid reverse panel points right. Motto PLV. Additional examples in F. J. Angert coll., 19 mm., 1.30 grms.; Banco Nacional de México, S. A.

8a.



⌘KAROLVS⌘ET⌘IOANA⌘RE
⌘HISPANIARVM⌘ET⌘IN **PLV**

G. C. Martin coll., 19 mm., 1.41 grms.

Three annulets above crown, quatrefoils between words. Johanna's name appears as IOANA. Motto PLV.

One Real

9.



(enlarged)

⌘KAROLVS⌘ET⌘IOHA PLVS
 ⌘HISPANIARVM⌘ET⌘INDIAR

ANS (Nesmith coll.), 23 mm., 3.35 grms.

Quatrefoils between words on obverse, lozenges on reverse. Reverse panel points left.

9a.



⌘KAROLVS⌘ET⌘IOHA⌘ PLVS
 ⌘HISPANIARVM⌘ET⌘INDIAR

T. V. Purrington coll., 23 mm., 3.14 grms.

Lozenges between words on both obverse and reverse. Another example in V. Q. R. 6884 (pl. 26,7), 24 mm.

9b.



⚔ HAROLVS (ET ⚔) IOHANA
⚔ HISPANIA (RVN ⚔) ET ⚔ INDIA **PLVS**

O. K. Rumbel coll., 23 mm., 3.13 grms.

Similar to 9a, but reverse legend ends INDIA. The example in the F. G. Angert coll., 23 mm., 3.20 grms., has lions and castles similar to those of 10. Other examples of 9b in Alfredo Porraz coll., 23 mm., 3.25 grms.; Clyde Hubbard coll., 23 mm., 3.15 grms.; Banco Nacional de México, S. A.; Salvador Illanes coll.

Two Reales

10.



⚔ HAROLVS [•••] IOHANA •
⚔ HISPANIA RVN • ET [•••] DIARV **PLVS**

O. K. Rumbel coll., 26 mm., 6.09 grms.

Reverse panel points left. Lozenges separate words on both obverse and reverse. Reverse motto PLVS. Additional examples in R. H. Wilson coll. (with rev. 10), 25 mm., 6.31 grms.; Heiss I, pl. 27,8 (with rev. 10c), 6.70 grms.

10a.



✠KAROLVS♦ET♦IOHANA PLV
✠HISPANIARVM ✠ET✠INDIAR

ANS (Wayte Raymond coll.), 26 mm., 6.54 grms.

Rhomboid panel points right. Lozenges separate words on obverse, quatrefoils on reverse. Motto PLV. Another example in F. C. C. Boyd coll. (Gutttag 2425), 26 mm., 6.70 grms.

10b.



✠KAROLVS✠ET✠IOHANA✠ PLV
✠HISPANIARVM ✠ET✠INDIAR

Lucio Laguette coll.

Reverse panel to right. Quatrefoils between words on both obverse and reverse. Motto PLV.

10C.



✠ KAROLVS ET IOHANA ✠
✠ HISPANIARVM ET INDIARVM ✠ PLVS

Lucio Laguette coll.

Reverse panel to left. Quatrefoils between words on obverse, lozenges on reverse. PLVS.

Four Reales

11.



✠ KAROLVS ET IOHANA RE ✠ PLVS
✠ HISPANIARVM ET INDIARVM RE ✠

H. F. Burzio coll., 31 mm., 13.50 grms.

Reverse panels point left. Lozenges in both obverse and reverse legends. Motto PLVS. Another example in J. T. Medina, *Las Monedas Coloniales Hispano-Americanas*, p. 65, no. 1.

11 a. Obverse legend punctuated by quatrefoils, ending IOHANA ✠ R. Reverse as 11. Illustrated in Heiss I, pl. 27,5 = V. Q. R. 6882.

EARLY SERIES

F (Esteban Franco)

The rare coins of Franco were struck only during a brief period, possibly about 1538-40 during the absence of Juan Gutiérrez. Until 1945 the only examples known were V. Q. R. 6880 and 6881, and Ulex 1215. The design is similar to that of the coins of Gutiérrez, except that the assayer's mark has been removed from the reverse between the pillars, and is found at the right of the shield on the obverse, balancing the mint mark.

Cuartilla

12. No example known.

One-half Real

13.



Hispanic Society of America no. 233, 20 mm., 1.56 grms.

Three annulets above crown. Quatrefoils between words on both obverse and reverse. Reverse panel points left. PLV. Another example in Clyde Hubbard coll., 19 mm., 1.30 grms.

14.

One Real



[KA]ROLVS ET IOHANA
PLVS
Hispaniarvm et Indiar

O. K. Rumbel coll., 24 mm., 3.16 grms.

Reverse panel points left. Quatrefoils in obverse legend, lozenges in reverse. PLVS. Additional examples in Lucio Laguerre coll.; V. Q. R. 6881 (pl. 26,6), 25 mm.; Ulex 1215.

15.

Two Reales



CHAROLVS ET IOHANA
PLVS
Hispaniarvm et Indiar

A. R. Perpall coll., 27 mm., 6.66 grms.

Reverse panel points left. Lozenges in legends on both obverse and reverse. PLVS. Example also in a Mexican collection, 26 mm., 3.96 grms.; V. Q. R. 6880 (pl. 26,5).

6

Four Reales

✠ KAROLVS ♦ ET ♦ IOHANA ♦ RE PLVS
 ✠ [HIS] PANIARVM ♦ ET ♦ INDIARVM ♦ RE

Hispanic Society of America no. 784, 32 mm., 11.68 grms.

Reverse panel points left. Lozenges in both legends. PLVS. The only example noted.

P (Pedro de Espina)

$\overset{\circ}{P}-\overset{\circ}{M}$

The coins of de Espina, struck around October 1541, fall into two groups: $\overset{\circ}{P}-\overset{\circ}{M}$, in which the mint mark appears to the right of the shield, the assayer's mark to the left; and $\overset{\circ}{M}-\overset{\circ}{P}$, in which the order is reversed. The former group is the rarest of all the coins of the Charles and Johanna EARLY SERIES. Neither the cuartilla nor the four reales piece has been found by the author. As was the case with Franco, de Espina must have served only for a short time.

The notable features of this series are the use of rondules in annulets, rather than either rondules or annulets separately; IOAN or IOANA instead of IOHANA; HISPANDIE or HISPANIE instead of HISPANIARVM; and the large pomegranate on the obverse shield, as that of the R series.

Cuartilla

17. No example known.

One-half Real

18.



✠KAROLVS: ET: IO: MANA: PLV
✠HISPANIE: ET: INDIAR

Clyde Hubbard coll., 18 mm., 1.21 grms.

Four annulets above crown, annulets in pale between words in legend. Reverse panel points right. Motto PLV. Note that M in IO⁸MANA is a die error.

One Real

19.



[KAR] OLVS: ET: IOAN: PLVS
✠HIS: PANIE: ET: INDIARV: ✠

O. K. Rumbel coll., 24 mm., 3.18 grms.

Lions and castles reversed in panels of shield. Rondules in annulets between words in legend. Reverse panel to left. Motto PLVS. The large pomegranate dates back to the R series.

19a.



**KAROLVS ET IOANA PLVS
HISPANIE ET INDIARVM**

Lucio Laguette coll.

Lions and castles in usual panels. Otherwise similar to 19, but reverse panel points right. No rondules or annulets above or below mintmark or assayer's mark.

Two Reales

20.



**KAROLVS ET IOANA R PLVS
HISPANIE ET INDIARVM R**

F. C. C. Boyd coll. (Guttag 2427 A), 28 mm., 6.45 grms.

Rondules in annulets between words. PLVS on panel pointing right. Another example, badly holed was seen in photograph from a Guatemalan collection, owner unknown. Note large pomegranate.

Four Reales

21. No example known.

$\overset{\circ}{M}-\overset{\circ}{P}$

The coins of this series are considerably more common than those just preceding. They comprise a complete series from cuartilla to four reales, although of the first denomination only one example has been found. They are of the same style as the F and $\overset{\circ}{P}-\overset{\circ}{M}$ coinage, and probably were among the last of the EARLY SERIES pieces. A point of liason with the $\overset{\circ}{P}-\overset{\circ}{M}$ group is seen in the spellings IOANA of nos. 23 and 25 c, and HISPANIE of 23, 25 c and 25 d; the balance of the pieces seen bear IOHANA and HISPANIARVM.

Cuartilla

22.



**✠K^oAROLVS: ET: IOA
HISPANIARVM^o E (?)**

ANS (Wayte Raymond coll.), 17 mm., .80 grms.

No annulets above or below M and P, which appear on the reverse. This piece and nos. 1 and 1a are the only coins of this denomination which have been located.

One-half Real

23.



✠KAR°LVS✠ET✠IOANA✠RE PLV
✠HISPANIE✠ET✠INDIAR

Clyde Hubbard coll., 18 mm., 1.55 grms.

Three annulets above crown. Quatrefoils divide words on both obverse and reverse. An annulet is used for O in KAROLVS. Note IOANA and HISPANIE. Reverse panel points left. Motto PLV. Additional examples in F. C. C. Boyd coll. (Guttag 2428), 19 mm., 1.68 grms.; ANS (Wayte Raymond coll.), 19 mm., 1.68 grms.; O. K. Rumbel coll., 19 mm., 1.30 grms.; F. J. Angert coll., 18 mm., 1.50 grms.; Fernand Kososky coll.; Salbach 3229; Ulex 1216.

23a.



✠KAROLVS°ET°IOHANA PLS
✠HISPANIARVM°ET°IN°

ANS (Wayte Raymond coll.), 21 mm., 1.68 grms.

Five annulets above crown. Mascles divide words, with annulets at ending on reverse. Note IOHANA and HISPANIARVM. Reverse panel to right, PLS. Examples also in Clyde Hubbard coll., 18 mm., 1.45 grms.; Banco Nacional de México, S. A.; Augustin Fischer coll., Scott Sale of April, 1891, no. 7, not illustrated.

23b.



⌘KAROLVS⌘ET⌘IOHANA
⌘HISPANIARVM⌘ET⌘IN⌘ PLS

ANS (Wayte Raymond coll.), 20 mm., 1.60 grms.

Eight annulets above crown. Quaterfoil and annulets between words on obverse, masles on reverse. Reverse panel to right, PLS.

One Real

24.



⌘KAROLVS⌘ET⌘IOHA
⌘HISPANIARVM⌘ET⌘INDIAR PLVS

Clyde Hubbard coll., 23 mm., 3.29 grms.

Quaterfoils divide words in obverse legend, lozenges in reverse. Reverse panel to left, PLVS. Additional examples in A. R. Perpall coll., (rev. legend ending INDIA⌘); ANS (rev. 24a).

24 a.



⌘KAROLVS⌘ET⌘IOHAN
⌘HISPANIARVM⌘ET⌘INDIA **PLVS**

Alfredo Porraz coll., 22 mm., 3.25 grms.

Quatrefoils between words of obverse legend, masles in reverse. Reverse panel to left, PLVS. A second example in F. J. Angert coll., 22 mm., 3.20 grms.

24 b.



⌘KAROLVS⌘ET⌘IOHANA⌘
⌘HISPANIARVM⌘ET⌘INDIAR⌘ **PLVS**

F. C. C. Boyd coll. (Gutttag 2426 A), 23 mm., 3.22 grms.

Quatretoils between words of legends on obverse and reverse, replacing cross potent at head of reverse legend. Rhomboid panel to right, PLVS.

24c.



⌘KAROLVS⌘ET⌘IOHANA⌘
⌘HISPANIARVM⌘ET⌘INDIA⌘ **PLVS**

Lucio Laguetta coll.

Obverse similar to 24b. Mascles divide reverse legend, ending with annulets. Reverse panel to right, PLVS.

24d.



⌘KAROLVS⌘ET⌘IOHANA
⌘HISPANIARVM⌘ET⌘INDIAR **PLVS**

ANS, 23 mm., 3.22 grms.

Obverse similar to 24b. Reverse as 24a but legend ending INDIAR.

24e.



✠KARO HAN PLVS
✠HISPANIARVM•ET•INDIAR

Clyde Hubbard coll., 22 mm., 3.20 grms.

Cross potent begins obverse legend. Lozenges divide words on reverse. Rhomboid panel points right, PLVS.

25.

Two Reales



✠KAROLVS•ET•IOHANA• PLVS
✠HISPANIARVM•ET•INDIARVM

ANS, 25 mm., 6.53 grms.

Lozenges in legends of both obverse and reverse. Reverse panel to left, PLVS.

25a.



✠KAROLVS✠ET✠IOHANA✠ PLVS
 [?]HISPANIARVM✠ET✠INDIARV

O. K. Rumbel coll., 27 mm., 6.53 grms.

Quatrefoils in legends of both obverse and reverse. Rondules in annulets rather than annulets alone found on obverse above and below mint and assayer's marks, on reverse panel, and as marks of denomination. Reverse panel to right, PLVS. Another example in ANS, 27 mm., 6.57 grms.

25b.



✠KAROLVS✠ET✠IOHAN[A?] PLVS
 ✠HISPANIARVM✠ET✠INDIARV

Wayte Raymond coll., 28 mm., 6.79 grms.

Lozenges in legends of both obverse and reverse. Reverse panel to left, PLVS. The lions and castles of the obverse shield have been transposed, a situation unusual for Mexico but frequently found on the so-called Charles and Johanna coins of Santo Domingo.

25c.

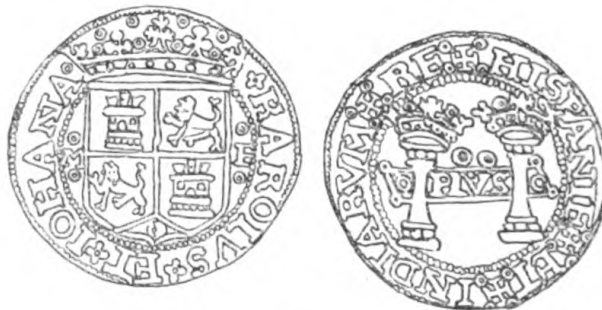


⌘:KAROLVS⌘ET⌘IOANA⌘R PLVS
⌘:HISPANIE⌘ET⌘INDIARVM⌘:RE

Lucio Laguette coll.

Unusual stops between words: obverse, quatrefoils between annulets; reverse, crosses potent between annulets. Reverse panel to left, PLVS.

25d.



⌘:KAROLVS⌘ET⌘IOHANA°
⌘:HISPANIE⌘ET⌘INDIARVM⌘:RE: PLVS

Museo Nacional de Historia, Mexico, 28 mm., 6.60 grms.

Quatrefoils in obverse legend, reverse as 25c. Assayer's mark P broken by beading to resemble F.

25 e. **KAROLVS ET IOHANA PLVS**
HISPANIARVM ET INDIARVM

Clyde Hubbard coll.

Quatrefoils in obverse legend, mascles in reverse. Panel to left PLVS.

25 f. **KAROLVS NAO** **PLVS**
HISPAN O ET INDIARV.

A. R. Perpall coll.

Mascles in both obverse and reverse legends. Panel to left, PLVS.

25 g. **KAROLVS ET IOHANAR PLVS**
HISPANIARVM ET INDIARVM

A. R. Perpall coll.

Lozenges in legends of both obverse and reverse. Panel to right, PLVS.

Four Reales

26.



KAROLVS ET IOHANA RE PLVS
HISPANIARVM ET INDIARVM RE

Banco Nacional de México, S. A.

Lozenges in legends of both obverse and reverse. Panel to left, PLVS. Arabic 4 indicates denomination, as usual. Another example in ANS (Wayte Raymond coll.), 30 mm., 12.53 grms.

26a.

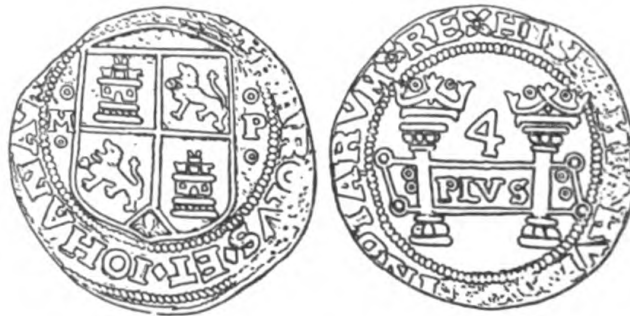


✠ CAROLVS ET IOHANA RE PLVS
✠ HISPANIARVM ET INDIARVM RE

H. L. Freeman coll., 31 mm., 13.57 grms.

Mascles in both legends. Panel points right, PLVS. A variety in V. Q. R. 6909 (pl. 26,17), and in the Hispanic Society of America no. 27069, has obv. of 26 and rev. of 26a but reverse legend ends in R.

26b.



✠ CAROLVS ET IOHANA RE PLVS
✠ HISPANIARVM ET INDIARVM RE

Alfredo Porraz coll., 30 mm., 13.25 grms.

Lozenges in obverse legend, quatrefoils in reverse. Panel points left, PLVS.

26c. Quatrefoils in both legends. Above and below mint and assayer's marks on obverse, and on reverse panel, rondules in annulets. Panel to left, PLVS. Illustrated in J. T. Medina, *Las Monedas Coloniales Hispano-Americanas*, p. 66, no. 3.

THE LATE SERIES

G-A-R-S-L-O

1542-1572

About the year 1542 a new series of die punches arrived from Spain. The designs were somewhat smaller than those of the EARLY SERIES, and were an adaptation of them. The new designs, the third punch design series, are illustrated on page 98.

Aside from the new punches, the differences in the LATE SERIES design distinguishing these coins from those of the EARLY SERIES are:

1. Waves appear at the bases of the pillars on the reverse to denote the Atlantic.

2. Charles' name is first spelled CHAROLVS, later CAROLVS.

3. The motto PLVS VLTRA, divided by the pillars, appears not on a ribbon or panel, but on the background.

The coins of the LATE SERIES are found with assayers' marks G (Juan Gutiérrez), A (unknown), R (Francisco del Rincón), S (unknown), L (Luis Rodríguez), and O (unknown). The L and O coinages were the latest, and fell at least partly, and possibly completely, into the first period of the reign of Philip II (1556-1570).

Of the more than 2400 pieces of the LATE SERIES which were examined, 12 per cent carry the mark G, about 3 per cent is divided among the A, R, and S coins, 43 per cent read L, and 41 per cent read O. The scarcity of the A, R, and S pieces demonstrates that they were minted only for short periods.

Classification of Varieties.

The coins have been classified according to die design varieties. The obverse dies are differentiated by the design details of the crown, the lion, the castle, and the upper edge of the shield. The design of the crown on the pillars has been used as the basis of the catalogue of the

reverses. The obverse legends have been assigned numbers, the reverse legends, lower case letters.

The one-half real pieces are catalogued according to the arrangement of the mint and assayer's marks with annulets on the obverse, and the form of the motto on the reverse. Please note that in the case of this denomination only, \dot{M} as mint mark in the catalogue means that M occurs with an annulet in some position, while M indicates the initial with no annulets.

In checking a given coin against the varieties listed and illustrated, one should remember that it is the *design* of the various punches and the *design* of the die which is shown. To classify every die would have been impossible. But the design in use during a certain period can be analyzed, even though on any particular piece it may be distorted, partly off the flan, or worn.

In the case of a few varieties, such as D and D¹, broken punches used over a long period have been classified separately. The broken crown D¹ is somewhat later than D. Similarly, B¹ is really design B after it had become worn and partly broken. Although more than one size of a given punch design was used among the dies of various denominations, crowns A and B, for example, are denoted by design, regardless of size. Only when the large-sized A intended for the piece of two reales appears on the dies for the one real coins is it denoted A^x.

The Legends.

The legends furnish some information which helps to arrange the coins in the sequence of their minting.

1. The coins bearing CHAROLVS on the obverse surely were struck before those reading CAROLVS. This applies as well to the copper coins of four maravedies. The CH legends appear only on the G coinage, which was struck from 1542 through 1545 and later to some date at present unknown. The copper coins with the CH legends thus fall into the same period, although they carry no assayer's mark.

2. The legends which achieved word divisions by two annulets in pale were earlier than those using a single annulet. This change is the

more noticeable on the one real coins, where space on the die was limited. The change from two annulets to one occurred on the real coins during the G period while obverses 9 and 10 and reverse A were in use. All the legends of the one real coins of A, R, S, L, and O use only one annulet.

3. Some legends show a trefoil between words, and occasionally at the end of the legend, to fill space. It might be wondered whether this was an ordinary development or a detail added deliberately to denote a certain period. Had it been planned it could be a device used in 1545 to denote the tenth anniversary of the opening of the mint. It would hardly be strange for the mint officials, proud of their success in manufacturing a good coinage, to have exerted themselves to make very carefully the coins of the tenth year of operation. Actually, the M-G and G-M coins of this period are the best of the LATE SERIES. The visitation of the lic. Sandoval occurred in 1545, and the officials had over a year's notice that he would appear at the mint and examine the coinage. Possibly this had some bearing on the appearance of a series of which the dies were designed with some extra care. The trefoil appears only in the legends of the G series. It is also found on some of the coppers of four maravedies, notably on no. 9 of the Rumble collection, and no. 3 of the Boyd collection.

THIRD PUNCH DESIGN SERIES

ACDEGHILMNOPRSTV

1

PIVSTR

2



3



4



5



6



7



8



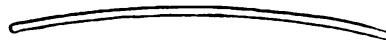
9



10



11



12



13



14



15



16



17



18



19

PUNCH DESIGNS FOR LATE SERIES

1. Letter punches (16) for legends. 2. Letter punches for reverse motto.
 3. Rondule for denomination indication. 4. Beads for circle. 5. Annulet.
 6. Cross potent for legend. 7. Jewel for base of crown. 8-10. Crown decorations.
 11. Connection for crown decorations. 12. Base of crown. 13. Top, sides, and center of shield. 14. Base of shield. 15. Pomegranate. 16. Waves.
 17. Castle. 18. Crown and capital for pillars. 19. Lion.

ENLARGED
TWO REALES LATE SERIES

M-A No. 57b

Showing use and placement of punches
in third series of punch designs





TWO REALES LATE SERIES
 SERIALS 100-199
 (See p. 98 for bunch design numbers)
 (See p. 98 for bunch design numbers)



TWO REALES LATE SERIES

M-A No. 57b Obverse

(See p. 98 for punch design numbers)



TWO REALES LATE SERIES

M-A No. 57b Reverse

(See p. 98 for punch design numbers)



TWO REALES LATE SERIES
TWO REALES EARLY SERIES
(See p. 98 for punch design numbers)
(See p. 98 for punch design numbers)



1. PIV | SVL | TRA
2. PIV | SVL | TR
3. PL | VS | VL
4. PL | V | S
5. P | LV | S
6. P | V | S
7. P | L | V
8. P | L | A
9. P | LA | S

REVERSE MOTTO VARIETIES OF THE
LATE SERIES

1., 2., and 3 on four reales, two reales, and one real pieces. 4–9 on half real pieces.

LATE SERIES

One Half Real

39



43



74



51



59



63



83



87



91



107



TABLE OF DESIGN VARIETIES
FOR LATE SERIES

In checking a given coin against the varieties listed and illustrated use of the tables of design varieties will be found to be necessary. In the table of design varieties for the obverses a tracing of a typical example is shown along with enlarged tracings of the crown, castle and lion appearing on it. The point or points of difference from the preceding variety are noted opposite variety number. In the column to the right are shown the varieties of reverse crowns found with the obverse design varieties shown on the same page. In the case of a few varieties such as D and D¹ broken punches used over a long period have been given a separate classification. The broken crown D¹ is somewhat later than D.

The two reales crown is somewhat larger than the one real crown, and when it occurs on coins of that denomination it is distinguished as A^x. The tables of reverse design varieties are to be found following those of the obverse within the individual denominations. They contain tracings of a specimen of each variety along with a reproduction of the form of the crown used on the two pillars.

One Real — Obverse



No. 1 Crown



REVERSE CROWNS



A



No. 2 Crown



Ax



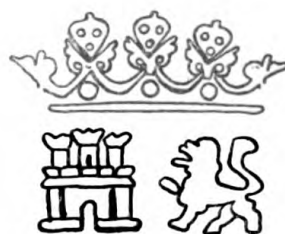
No. 3 No tongue in Lion



B



No. 4 Crown + Lion



Bx

One Real — Obverse



No. 5 Crown

No. 5a No tongue on lion



No. 6 Crown



No. 7 Crown



No. 8 Crown

REVERSE CROWNS



A



Ax



Cr

One Real — Obverse

REVERSE CROWNS



No. 9 Shield



A



Ax



No. 10 Shield



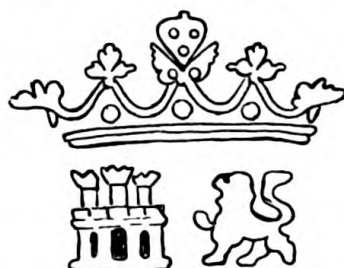
Cr



C2



No. 10a Tongue in lion



C



D



Nr. 11 Castle + No tongue in lion

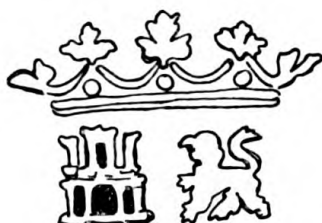


D1

No. 12 Crown



No. 13

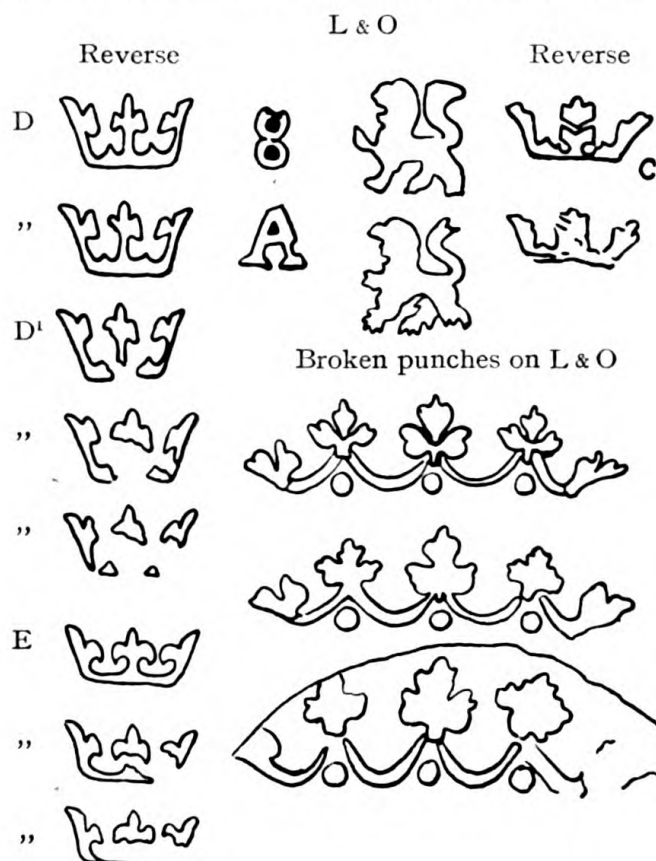


Castle + Lion

REVERSE CROWNS



CHARACTERISTIC BROKEN PUNCHES IN LATE SERIES



One Real — Reverse



A

on

G & A

Coinage



C

on

R, S, L &
O CoinageA^x

on

G

Coinage

C¹

on

G, L & R
Coinage

B

on

G

Coinage

C²

on

R & L
CoinageB¹

on

G

Coinage



D

on

L & O
Coinage

E

on

L & O

Coinage



Two Reales — Obverse



No. 14 Crown



REVERSE CROWNS



A



No. 15 Crown



A²



No. 16 No tongue in Lion



B¹



No. 17 Crown + Tongue in Lion



C¹



C²

No. 18a Crown as 4R 18, but lion has no tongue



No. 19

Crown



No. 20 No tongue in Lion



Details of worn or
broken punches as
usually found on
obverse 20.



REVERSE CROWNS



A

A²C²

D



A



A



B



C1



B1



A²



C₂



E



Four Reales — Obverse



No. 14 Crown

REVERSE CROWNS



A



No. 15 Crown



B



B1



No. 16 No tongue in Lion



C1



C2



No. 18 Crown + tongue in Lion



F

REVERSE CROWNS



No. 19 Crown



No. 20 Design identical with two reales



No. 16 Broken-Punch
in L and O Series



Four Reales — Reverse



A



B



B1



C1





C²



D



E



F



LATE SERIES

TABLE OF OBVERSE LEGENDS

When found with *CHAROLVS* the legend number in the text is preceded by CH.

1. CAROLVS ☙ ET ☙ IOHANA•RG
- 1a. CAROLVS ☙ ET ☙ IOHANARG
- 1b. CAROLVS ☙ ET ☙ IOHANA8R
- 1c. CAROLVS ☙ ET ☙ IOHANA8RG ☙
2. CAROLVS8ET8IOHANA8REGES8
3. CAROLVS8ET8IOHANA8REGES•
4. CAROLVS8ET8IOHANA8REGES
5. CAROLVS8ET8IOHANA8REGS8
- 5a. CAROLVS8ET8IOHANA•REGS8
6. CAROLVS8ET8IOHANA8REGS•
7. CAROLVS8ET8IOHANA8REGS
8. CAROLVS8ET8IOHANA8REG
9. CAROLVS8ET8IOHANA•REGES•
10. CAROLVS8ET8IOHANA•REGES
11. CAROLVS8ET8IOHANA•REGS•
12. CAROLVS8ET8IOHANA•REGS
13. CAROLVS8ET8IOHANA•REG
14. CAROLVS8ET8IOHANA•RGS
15. CAROLVS8ET8IOHANA•RG
16. CAROLVS8ET8IOHANAREGES
- 16a. CAROLVS8ET8IOHANAREGES•
17. CAROLVS8ET8IOHANAREGS8
18. CAROLVS8ET8IOHANAREGS
19. CAROLVS8ET8IOHANARGES

20. CAROLVS8ET8IOHANARGS
21. CAROLVS8ET8IOHANARG
22. CAROLVS8ET•IOHANAREGES
23. CAROLVS•ET•IOHANA•REGES•
24. CAROLVS•ET•IOHANA•REGES
25. CAROLVS•ET•IOHANA•REGS•
26. CAROLVS•ET•IOHANA•REGS
27. CAROLVS•ET•IOHANA•REGE
28. CAROLVS•ET•IOHANA•REG
- 28a. CAROLVS•ET•IOHANA•REG•
29. CAROLVS•ET•IOHANAREGES
30. CAROLVS•ET•IOHANAREGS•
31. CAROLVS•ET•IOHANAREGS
32. CAROLVS•ET•IOHANAREG
33. CAROLVS•ET•IOHANARGES
34. CAROLVS•ET•IOHANARGS
35. CAROLVS•ET•IOHANARES
36. CAROLVS•ET•IOHANAGS
37. CAROLVS•ET•IOHANARS
38. CAROLVS•ET•IOHANREGES
39. CAROLVS•ET•IOHANA
40. CAROLVS•ET•IOHANA•R
41. CAROLVS•ET•IOHANAR
42. CAROLVS•ET•IOHANARG
43. CAROLVS•ET•IOANA•REGES
44. CAROLRVVS•ET•IOHANA
45. CAROLVSS•ET•IOHANA
46. CAROLVSET8IOHANAREGES

8*

LATE SERIES

TABLE OF REVERSE LEGENDS*

- a. ✚ HISPANIARVM8ET8INDIARVM
- b. ✚ HISPANIARVM8ET8INDIARVM◦
- c. ✚ HISPANIARVM8ET8INDIARVM8
- d. ✚ HISPANIARVM8ET8INDIARVM8◦
- e. ✚ HISPANIARVM8ET8INDIARVM8◦ ☙
- f. ✚ HISPANIARVM8ET8INDIARVM8☙8
- g. ✚ HISPANIARVM8ET8INDIARVM8 ☙
- h. ✚ HISPANIARVM8ET8IN8DIARVM8 ☙
- i. ✚ HISPANIARVM ☙ ET ☙ INDIARVM
- j. ✚ HISPANIARVM ☙ ET ☙ INDIARVM◦
- k. ✚ HISPANIARVM ☙ ET ☙ INDIARVM ☙
- k2. ✚ HISPANIARVM ☙ ET ☙ INDIARV
- l. ✚ HISPANIARVM8ET◦INDIARVM
- m. ✚ HISPANIARVM8ET◦INDIARVM◦
- n. ✚ HISPANIARVM8ET◦INDIARVM◦ ☙
- o. ✚ HISPANIARVM◦ET◦INDIARVM ☙
- p. ✚ HISPANIARVM 8 ET 8 INDIARVM ☙
- p2. ✚ HISPANIARVM8ET8INDIARVM◦ ☙
- q. ✚ HISPANIARVM8ET8INDIAR◦
- r. ✚ HISPANIARVM8ET8INDIARV
- r2. ✚ HISPANIARVM8ET8INDIARV◦
- s. ✚ HISPANIARVM◦ET◦INDIARV
- t. ✚ HISPANIARVM◦ET◦INDIARV◦

* On half real pieces, inscriptions often have the center trefoil of the crown substituted for the initial cross.

- u. ♣ HISPANIARVM•ET•INDIARVM8 •
- u2. ♣ HISPANIARVM8INDIARVM8 • (ET8omitted)
- v. ♣ HISPANIARVM•ET•INDIAR
- w. ♣ HISPANIARVM•ET•INDIAR•
- x. ♣ HISPANIARVM•ET•INDIA
- y. ♣ HISPANIARVM•ET•INDIA•
- z. ♣ HISPANIARVM•ET•INDI
- z2. ♣ HISPANIARVM•ET•INDI•
- z3. ♣ HISPANIARVM•ET•IND
- z4. ♣ HISPANIARVM•ET•IN
- z5. ♣ HISPANIARVM•ET•IN•
- z6. ♣ HISPANIARVM8ET8INDIA
- z7. ♣ HISPANIARVM•ET•IND•
- z8. ♣ HISPANIARVM8ET8INDIA8
- aa. ♣ HISPANIARVM•ET•INDIARVM
- bb. ♣ HISPANIARVM•ET•INDIARVM•
- bb2. ♣ HISPANIARVM•INDIARVM• (ET•omitted)
- x1. ♣ HISPANIARVM•ET•INDIARM•
- x2. ♣ HISPANIARVM•ET•INDIARVM
- x3. ♣ HISPANIARVM•ET•INDIARM
- x4. ♣ HISPANIARVM8ET8INDIARM
- x5. ♣ HISPANIARVM•ET•INDIRM
- x6. ♣ HISPANIARVM•ET•ENDIARVM
- x7. ♣ HISPANIARVM•ET•INDIAM
- x8. ♣ HISPANIARVM•ET•INDIRVM
- x9. ♣ HISPANIARVM•ET•NDIARVM
- x10. ♣ ISPANIARVM•ET•INDIARVM

CATALOGUE OF LATE SERIES COINS

No.	Denom.	Obv. Design	Rev. Des.	Obv. Legend	Rev. Legend	Copies Seen
31	½ R	Unknown				
32	1 R	1	A	CH4, CH7	a, c	4
32a		1	A ^x	CH7, CH11	c	2
33	2 R	14	A	CH12	b	2
34	4 R	14	A	CH10	b	2


35	½ R	Unknown				
36	1 R	2	A	CH7, CH12	b	9
36a		2	A	CH12	b PLV SVL TR	2
36b		4	BI	CH7, CH8	a	2
37	2 R	Unknown				
38	4 R	Unknown				

39	½ R		P LV S	26, 28	y, z ⁸	3
40	1 R	Unknown				
41	2 R	15	A	12, 13	c, d, m, n, aa	6
41a		16	A	16, 22	b, c	2
42	4 R	Unknown				

43	½ R		P LV S	CH24	s	1
43a			PL V S	11	y	1
43b			PL V S	31	z ⁶	1



No.	Denom.	Obv. Design	Rev. Des.	Obv. Leg.	Rev. Leg.	Copies Seen
44	1 R	2	A	CH8	b, c, p.	5
44a		2	A ^x	CH8	a, c	5
44b		3	A	26	a	1
44c		6	A	11, 12	a, c, m	5
44d		6	CI	11	a	1
44e		8	CI	11	a	2
44f		9	A	10, 24	a, b, aa, bb	13
44g		10	CI	12	b	2
44h		10	A ^x	10, 12, 26	b, m, u2, bb, bb2	16
45	2 R	15	A	10	b	1
45a		16	A	9, 24	p2, bb	2
45b		17	A	10	b, c	2
45c		18a	A	10	c	1
45d		19	A	10	b	7
46	4 R	15	A	9, 10	b, c, d, p	6
46a		15	B	10	b	1
46b		15	F	10	h	1
46c		16	A	9	b	1
46d		16	CI	9	d	1
46e		18	A	10	b	1

M-G

47	1/2 R		PL V S	CH24, 28a	v, x	2
47a			P LV S	CH43, 43	s, aa	3
48	1 R	3	A	CH16, CH18	a, b, p	7
48a		3	A ^x	CH7	c	1
48b		3	A ^x	CH7	a PLV SVL TRA	4
48c		3	BI	CH7	a	2
48d		3	A	16, 18, 21	a, b, c, k2	8
48e		5	A	1b, 12, 14	a, i	10
48f		5a	A	15	a	1
48g		7	A	4, 12, 16, 18	b, c, m	8
48h		8	A	16	a	3
48i		9	A	10, 24, 25, 26	a, b, c, aa, bb	29
48j		10	A	11, 12, 18, 21, 25, 26	a, b, c, m, aa, bb	26
48k		10a	A	12, 14	a	4
49	2 R	15	A	CH9, CH10, CH11, CH12, CH13, CH18	a, b, g, p	6
49a		15	BI	CH6, CH7, CH12	a	3

No.	Denom.	Obv. Design	Rev. Des.	Obv. Legend	Rev. Legend	Copies Seen
49b		16	A	13	b, p	2
49c		17	A	10	b	1
49d		19	A	1a, 5a, 10, 16	b, j	6
49e		20	A	10	a, b	4
50	4 R	15	A	CH ₄	c	2
50a		16	B	CH ₄	c	1
50b		15	B ^l	CH ₄	c	2
50c		15	A	9, 10, 16	a, c	3
50d		15	C ^l	10, 16	b, c	3
50e		16	A	4, 10, 16	b, c	3
50f		19	A	CH ₄ , 1a, 1c, 7, 9	f, i, j, k, p ³	5
50g		19	F	16	e	1

M-G


51	1/2 R		P LV S	CH ₁₂	s	3
51a			P LV S	12, 26, 31	v, w, x, y	5
51b			PL V S	18, 26, 31, 32	v, x, y	9
52	1 R	4	A ^x	CH ₈	a PLV SVL TRA	1
52a		4	B	CH ₇ , CH ₈	a	4
52b		4	B	CH ₈	a PL VS: VL	5
52c		4	B ^l	CH ₇ , CH ₈	b	4
53	2 R	15	B	CH ₁₀ , CH ₁₇	c	2
53a		15	A	10	c	1
53b		15	B	16	c	1
53c		16	A	16	a	1
54	4 R	15	B ^l	CH ₄	b	1
54a		15	A	3	d	1

M-A


55	1/2 R	Unknown				
56	1 R	9	A	24, 26, 29	aa, bb	4
56a		10	A ^x	24, 29	aa, bb	10
57	2 R	15	A	24, 26	bb	2
57a		15	C ₂	24	bb	1
57b		16	A	26	bb, u	9
58	4 R	16	C ₂	24	b	1

No.	Denom.	Obv. Design	Rev. Des.	Obv. Legend	Rev. Legend	Copies Seen
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A—M (or A— $\overset{\circ}{M}$ $\frac{1}{2}$ R)

59	$\frac{1}{2}$ R		PL VS VL	26	v	V.Q.R.
59a			P LV S	26	v	2
59b			PL V S	26	v	3
60	1 R	Unknown				
61	2 R	16	A	24	bb	1
61a		16	C2	24	bb	1
62	4 R	16	A	24	a	1
62a		16	C2	23	b, bb	2

 $\overset{\circ}{M}$ —A

63	$\frac{1}{2}$ R		PL V S	v (sic!)	v	2
63a			P LV S	v (sic!)	v	2
64	1 R	10	A	26	aa	2
65	2 R	Unknown				
66	4 R	Unknown				

M—R

67	$\frac{1}{2}$ R	Unknown				
68	1 R	10	C1	26	bb	1
68a		10	C2	26, 31	bb	4
68b		10	C	26	bb	2
69	2 R	20	C2	26	bb	VQR no. 6910
70	4 R	Unknown				

R—M

71	$\frac{1}{2}$ R	Unknown				
72	1 R	10	C2	26	aa, bb	4
73	2 R	19	A	26	aa	2
74	4 R	16	C1	24	l, aa, bb	4

No.	Denom.	Obv. Des.	Rev. Des.	Obv. Legend	Rev. Legend	Copies Seen
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M-S (or $\overset{\circ}{M}$ -S)

75	$\frac{1}{2}$ R	Unknown				
76	1 R	12	C	26, 29, 31	aa, bb, bb2	10
77	2 R	20	A2	29	bb	1


This coin is the only example noted of the $\overset{\circ}{M}$ -S series. ANS.

78	4 R	16	E	12	b	1
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L-M








79	$\frac{1}{2}$ R		P LV S	26	v	1
79a		„	PL V S	26	v	1
80	1 R	10	CI	24, 26	aa, bb	9
80a		10	C2	24, 26, 31	aa, bb	9
80a is misnumbered as 84a on PLATE VII.						
80b		10	C	24, 26, 28, 32	a, aa, bb	114
80c		11	C	24, 26, 28, 31, 32, 35	aa, bb	88
80d		12	C	23, 24, 26, 31	aa	9
80e	L O	12	D	26	aa	3
81	2 R	16	A	26	b	2
81a		20	A2	4, 23, 24, 25, 26, 29, 30, 31	u, aa, bb	42
81b		16	CI	26	a	1
82	4 R	16	E	7, 9, 10, 12, 24, 26	a, b, c, d, aa, bb	18
82a		16	CI	24	b	1

M-L

83	$\frac{1}{2}$ R		P LV S	26	v, x	12
84	1 R	10	A ^x	24	aa	1
84a		10	CI	24, 26, 29	aa, bb	33
84b		10	C2	24, 26	aa	4
84c		10	C	24, 26, 27, 29	aa, bb, o, x9, x10	136
84d		11	C	24, 26, 31, 32	aa, bb	85
84e		12	C	26, 31	aa, bb	6
84f		12	D	26	aa	3

No.	Demon.	Obv. Design	Rev. Des.	Obv. Legend	Rev. Legend	Copies Seen
85	2 R	16	A2	24, 26	aa, bb	6
85a		16	CI	24, 26	b, bb	5
85b		20	A2	24, 25, 26	aa, bb	28
86	4 R	16	CI	10, 24	b, l, aa, bb	4
86a		16	E	4, 12, 18, 23, 24	a, b, c, aa, bb	11

M-L




87	1/2 R		P LV S	26	v, x	4
87a			PL V S	26	v	2
87b			P LV S	24, 26, 28, 31	v, w, y	7
87c			PL V S	28	v	3
87d			P LV S	26	v, y	3
87e			PL V S	26, 31	x, y	3
87f			P LV S	26	v	2
88	1 R	12	C	24, 26	aa, bb	12
88a		12	D	24, 26, 29	aa, bb	47
88b L O		12	D	24, 28, 29	aa	10
88c		12	DI	24, 26, 29, 31	aa, bb, x1, x3	67
88d		13	DI	29, 32	aa	4
88e L O		13	E	31	x3	1
88f		13	E	34, 36	aa, x3	9

It is possible that some examples of nos. 88b, d, and e are included under other portions of no. 88, the original O having been completely obliterated. On certain pieces something seems to be visible under the L, but it is only conjectural that the die originally carried an O.

89	2 R	16	A2	7, 24	a, c, aa	4
89a	M L-L M	20	A2	6	a	1
89b	M M-L O	20	A2	16	a	2
89c		20	A2	4, 16, 18, 24, 26	a, b, aa, bb	19
90	4 R	16	E	3, 4, 7, 12, 16, 24, 25	a, b, c	18

No.	Denom.	Obv. Design	Rev. Des.	Obv. Legend	Rev. Legend	Copies Seen
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L-M

91	1/2 R		P LV S	3I	v	9
91a			PL V S	3I	y	1
91b			P LV S	3I	v	1
91c			P LV S	40(?)	x(?)	1
92	1 R	12	C	24, 26	aa, bb	13
92a		12	D	24, 25, 26, 29, 3I	aa, bb	42
92b	L O	12	D & DI	24, 26, 29	aa, x3	9
92c		12	DI	24, 25, 26, 29, 3I	aa, bb	71
92d		13	DI	3I	aa, bb	5

Crowns D and DI are identical in design, the latter however showing punch breaks and consequently dating later. About 10% of this series could not be classified as to legend, since it was off flan or illegible.

93	2 R	20	A2	4, 7, 16, 24	a, c	10
93a	L M-M L	20	A2	16	a	1
93b	L O-M M	20	A2	16(?)	a	1
94	L O	16	E	3, 4, 7, 10, 16, 24	a, c, aa	20

On one example of 94 the motto reads PLV|LVS|TR

94a	4 R	16	E	16	a	2
94b		20	E	4	a	1

O-M


95	1/2 R	Unknown				
96	1 R	12	C	24(?)	aa	1
96a	O M-M L	12	D	26	aa	7
97	2 R	20	A2	24	aa	1
98	4 R	Unknown				

No.	Demon.	Obv. Design	Rev. Des.	Obv. Legend	Rev. Legend	Copies Seen
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M—O




99	1/2 R	Unknown				
100	1 R	12	C	28	aa, bb	6
100a		12	D	26	bb	1
100b		13	E	33, 34	x3	4
101	2 R	20	A2	7, 24	a, x6	3
102	4 R	Unknown				

O— $\overset{\circ}{M}$

103	1/2 R		P LV S	26, 29	v	2
104	1 R	12	C	24	aa	1
104a		12	D	24, 26	aa	13
104b	O L	12	D & DI	24, 29	aa, bb	16
104c		12	DI	24, 26, 29, 31	aa, bb, x2	35
104d		13	DI	29, 31	aa, bb	14
104e		13	E	31	aa, bb	12
105	2 R	20	A2	16, 23, 24, 31	a, aa	6
105a	O L	20	E	24	aa (?)	1
105b		20	E	24	aa	1
106	4 R	16	E	16, 18, 20	a, b, c	17

 $\overset{\circ}{M}$ —O

107	1/2 R		P LV S	34, 37	v, z, z ²	5
107a		„	P LA S	31	z	3
107b		„	P L V	39	z ²	2
107c		„	P V S	40	z ³	1
107d			P LV S	37, 42	v, z, z ⁵	5
107e		„	P V S	41	z, z ⁵	2

No.	Denom	Obv. Design	Rev. Des.	Obv. Legend	Rev. Legend	Copies Seen
107f			P V S	39, 41, 44	z, z ³ , z ⁴ , z ⁷	7
107g		„	P L V	39, 44	z, z ³	5
107h		„	P L A	39	z	1
107i		„	P L S	44	z	1
107j			P LV S	26	v	1
107k			P L V	45	z ³	2
107l		„	P L A	39	z	3
107m		„	P L S	45?	z ³	3
108	1 R	12	D	24, 26, 29	aa	7
108a	O L	12	D & DI	24, 26, 29	aa	4
108b		12	DI	24, 26, 29, 31	aa, bb, x6	67
108c		13	D & DI	29, 31, 34, 38	aa, bb	56
108d		13	E	28, 29, 30, 31, 32, 33, 34, 35, 36	aa, bb, x3, x7, x8	295

Of 108c, one example read CAROVVS, a die error; one omitted •ET in rev. legend; and two showed motto PL|VS|V. Of 108d, one example read IOHANAEVS, another, CAROHLRVS•ET• IOHANARGS. Nearly 300 of no. 108 came from one hoard found in 1951.

109	2 R	20	A2	16, 18	a, b, c	14
109a		20	E	18, 24	a, c, bb, x4	21
110		16	E	4, 16, 18, 19, 20, 46	a, b, c, x4	343

Of 110, one example read CAROLS; six omitted 8 reading CAROLVS ET8; twelve read CARLVS; and one reverse read INDIAM. Two hundred seventy-five examples were found in one hoard in 1954, and were loaned to the author for study and classification.

110a	O L	16	E	10, 16	a	2
110b	4 R	16	D	18, 20	a, c	5

THE COPPER COINAGE

The scarce EARLY SERIES copper was undoubtedly struck only in 1542, when the viceroy Mendoza first ordered its production. So few pieces are known that there must have been an alteration almost immediately to the third punch design series the design of most of the pieces known today. No pieces of 2 maravedies of the EARLY SERIES were discovered.

The copper known to us is so badly preserved that even to consider cataloguing it is presumptuous. Of the 67 pieces examined, on only 38 could as much as the obverse and reverse varieties be recognized. The legends are even more difficult to read. Although the catalogue is a presentation of the legible copper seen, it must not be presumed that it begins to cover all possibilities. Thus obverse 3 certainly occurs with reverse H or I, but the condition of the coins prevents absolute identification and inclusion in the catalogue. Not only can new combinations of obverse and reverse be found, but perhaps even new die varieties await discovery.

The variety of obverse and reverse die combinations demonstrates that a number of dies were in use at one time and were paired capriciously. Thus no. 2a, a combination of dies 2 and I, carries no mintmark, while no. 5a shows no mark of denomination.

Within the EARLY and LATE SERIES all pieces are catalogued together, since no assayers' marks appear.

The earliest Spanish copper coinage used in Mexico was probably the so-called Santo Domingo issue. It was of a type utterly distinct from that coined in Mexico, as is clear from the accompanying illustration:



TWO MARAVEDÍES

Late series



1a.

Banco de México, S.A.

CHAROLVS on reverse, pomegranate below. M to left of pillar. Another example in Anderson coll.



1b.

Dr. A. F. Pradeau coll.

Probably CHAROLVS. M to right of pillar. Another in Delgado coll.



2a.

Busser coll.

HISPANIARVM ☉ ET ☉ INDIARVM on both faces. No pomegranate.



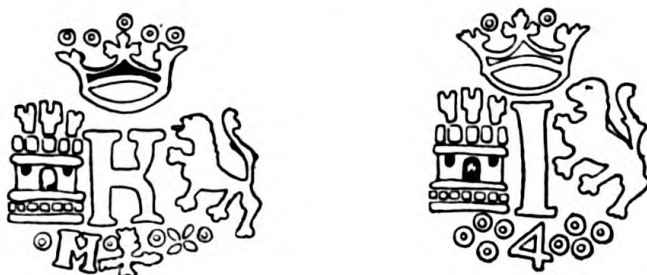
2b.

O. K. Rumbel coll. (2 examples)

As 2a. Evidently No M's at sides of castle, although area is worn.

FOUR MARAVEDÍES

Early series type



Late series type



DIE VARIETIES

	Obverse	Reverse	
1			AA
2			A
3			B
4			C
5			D
6			E
7			F
8			G
9			H
10			I
11			J

OBVERSE LEGENDS

1. KAROLVS ♣ ET ♣ IOHANA ♣ REGES ✚
2. CAROLVS ♣ ET ♣ IOHANA ♣ REGS ✚
3. CAROLVS ♣ ET ♣ IOHANA 8 REGS ✚
4. CAROLVS 8 ET 8 IOHANA 8 REGES 8 ♣ ✚
5. CAROLVS 8 ET 8 IOHANA 8 REGES 8 ✚
6. CAROLVS 8 ET 8 IOHANA 8 REGES ° ✚
7. CAROLVS 8 ET 8 IOHANA 8 REGES ✚
8. CAROLVS 8 ET 8 IOHANAREGES ✚
9. CAROLVS 8 ET 8 IOHANNA 8 REGES ° ✚
10. CAROLVS 8 ET 8 IOHANNA REGES 8 ✚
11. CAROLVS 8 ET 8 IOHANNA REGES ° ✚
12. CAROLVS 8 ET 8 IOHANNA REGES ✚
13. CHAROLVS ♣ ET ♣ IOHANA ♣ REGES ♣ ✚
14. CHAROLVS 8 ET 8 IOHANA 8 REGES ✚
15. CHAROLVS 8 ET 8 IOHANA 8 REGES 8 ✚
16. CHAROLVS 8 ET 8 IOHANA ° REGES ° ✚
17. CHAROLVS 8 ET 8 IOHANA ° REGES ✚
18. CHAROLVS 8 ET 8 IOHANNA ° REGES ✚
19. CHAROLVS 8 ET 8 IOHANNA REGES ✚
20. CHAROLVS 8 ET 8 IOHANNA REGES ° ✚

REVERSE LEGENDS

- a. HISPANIARVM ♣ ET ♣ INDIARVM ✚
- b. HISPANIARVM ♣ ET ♣ INDIARV ✚
- c. HISPANIARVM 8 ET 8 INDIARVM ° 8 ✚
- d. HISPANIARVM 8 ET 8 INDIARVM 8 ✚
- e. HISPANIARVM 8 ET 8 INDIARVM ° ✚
- f. HISPANIARUM 8 ET 8 INDIARVM ✚

Several of the above legends have not been noted in full, but that they exist is inferred from portions of legends on worn coins.

CATALOGUE OF FOUR MARAVEDIES

Early Series



ANS, 26 mm, 85.9 grms.

PLATE XII, 1

The first type, using punch design series no. 2. Obverse type is that limited to this series, reverse is no. G. Obverse legend 1, reverse legend b. Only two copies were found, the second in the F. C. C. Boyd coll.

Late series



1. Dr. A. F. Pradeau coll.

No.	Obv.Des.	Rev.Des.	Obv.Leg.	Rev.Leg.	Copies
1	1	G	15, ?	?	3
1a	1	J	?	?	1
2	2	A	3, ?	d, e, ?	2
2a	2	I	3	d, e	3
3	3	A	?	e	1
4	4	A	7, ?	d, e	2
4a	4	H	?	e	1
5	5	I	5	e, ?	2



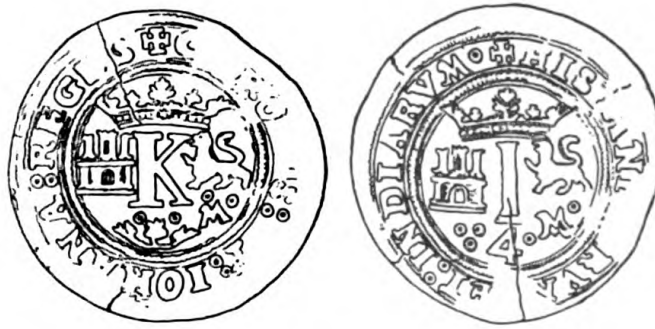
5a O. K. Rumbel coll.

No.	Obv.Des.	Rev.Des.	Obv.Leg.	Rev.Leg.	Copies
5a	5	J	5, 7, ?	d, ?	3
6	6	A	12, 19	f	2
6a	6	B	19	e	1
6b	6	C	?	e	1
7	7	A	?	e	1



7a. F. C. C. Boyd coll.

7a	7	B	5, ?	e, ?	3
7b	7	E	18	d	1
7c	7	F	?	e	1
7d	7	H	?	?	1
8	8	B	7, ?	c, f	2



9a. F. C. C. Boyd coll.

No.	Obv.Des.	Rev.Des.	Obv.Leg.	Rev.Leg.	Copies
9	9	AA	?	C	1
9a	9	B	7	e	1
9b	9	H	5	e	1



10. F. C. C. Boyd coll.

10	10	A	7, 16, 20	d, ?	3
11	11	B	18	e	1
11a	11	D	?	e	1

APPENDIX

ROYAL DECREE ESTABLISHING THE MINT OF MEXICO — MAY 11, 1535¹

THE QUEEN. — Don Antonio de Mendoza, our Viceroy and Governor of New Spain and President of our Court and Royal Chancery which resides there. You already know that in one of the chapters of the book of laws which the Emperor and King, my lord, commanded given to you for the good government of the republic of that province, he ordered you to coin money of silver and copper,² and in doing so to observe the order which was given you by those of our Council of the Indies, who, with the concurrence and opinion of officials of some Mints of our kingdoms, ordered that in the coining of the said money of silver and copper and in the duties of the said officials of the Mints of said New Spain, the following order be observed in as much as it is our pleasure and will.

First, you will observe in the making of the said money of silver and copper the regulations of the Mints of these kingdoms which have been ordered in respect thereto by the Catholic Rulers don Fernando and Doña Isabel, our parents and grandparents, for at present no money is to be made of gold.

And in regard to the second chapter of the book of said laws and ordinances there is set forth the pattern which the said money of silver which may thus be made is to have, half of it to be single real pieces, and a fourth part two and three reales pieces, and the other fourth part, half and quarter real pieces; and the die for the single real pieces

¹ Translated from the Spanish of Medina, *Monedas coloniales hispano-americanas*, pp. 54-57.

² *Vellón* is regularly translated as "copper" although it was in reality an alloy of copper and silver.

and the two and three reales pieces is to be on one side castles and lions with the pomegranate, and on the other side the two columns, and between them an inscription as follows: PLVS VLTRA, which is the device of the Emperor, my lord; and the half real pieces are to have on one side a "K" and an "I," and on the other side the said device of the columns, with the said inscription, PLVS VLTRA, between them; and the quarter real pieces shall have on one side an "I," on the other a "K,"³ and the legend of all the said silver money shall be CAROLVS ET JOANA. REGES HISPANIE ET INDIARVM, or what can be included of this, and there shall be placed on the side where the device of the two columns may be a Latin M, so that it may be known that it was made in Mexico.

Furthermore, inasmuch as it is prohibited by a chapter of the said ordinances that money can be exported from our kingdom, we permit and approve that the silver and copper money which may thus be made in said New Spain may be exported from it to our kingdoms of Castile and Leon and for all our Indies, islands and land of the Atlantic Ocean, in order that it may be current and valid within them for its true value, which is thirty-four maravedies each real, and the other pieces of silver accordingly; and if they are produced and made in other places, the penalties of our laws and ordinances shall be incurred.

Furthermore, inasmuch as from all the gold and silver which is mined and obtained as ransom or booty or in any other manner, there must be paid to us a payment of one-fifth to the officials of our Smelter in New Spain, and it is necessary to mark with our mark to show that the said fifth has been paid, we command that there be no silver received in the said Mint to be coined unless it has first been marked with our royal mark, which shall show that a fifth of it is paid to our said officials, under penalty of death to persons who in any other way receive or coin the said silver, and all their wealth shall be turned over to our Treasury; and the owners of the said silver shall

³ C. Pérez Bustamente's reading, which is correct as can be seen from the coins.

have lost it and two-thirds of it shall be turned over to our Treasury and the other third to him who reported it; such owners of silver may incur this penalty only by having presented it to the Mint, even though it be not coined nor the officials thereof not wish to coin it.

Furthermore, we order and command that the President and members of our court which resides in the city of Mexico and our other common justices may try any case of counterfeiting which is committed by the said coiners, although it may be committed in the said Mint, and may remove to their jurisdiction such a case, even though the justices of the said Mint may have prepared and commenced trial.

Furthermore, inasmuch as by another of said ordinances it is commanded that if the officials and coiners of the said Mint be brought to trial in civil cases, that the justices of said Mint may try them and no other justices; we declare that this is not understood in respect to that which concerns the tax of one fifth, land taxes, other taxes, and whatever else is owed by them to us and to our officials in our name; for in all these matters we desire and command that any of our justices may bring trial in their towns and jurisdiction as they could try a case if they were not officials of the said Mint.

Furthermore, we command that the residence which, in conformance with the said laws and ordinances must be taken by the justices and officials and other persons of the said Mint, shall be taken by the person whom our Viceroy and Governor of said land may name and signify and by no other.

Likewise, we command that insofar as regards the frank and exemption from land taxes and moneys and other things from which the coiners are exempt in conformance with the laws of our kingdom, it be understood that, save for sales taxes, the tax of one fifth, duties on imports and exports, and other tributes that we may impose with the allotment of territory or land that we may give them, in the same manner as other residents are accustomed to pay and must pay, the persons to whom territory may be allotted or an estate given must pay.

Furthermore, inasmuch as according to the order of one of the said ordinances, from each mark of silver which is to be coined there must be produced 67 reales, of which reales one is retained in the said Mint for all our officials thereof, and if this only may be retained in the Mint of the said New Spain, heedful that its expenditures are much larger than in these kingdoms, our said officials would not wish nor could willingly coin the said silver because of not having suitable recompense; therefore, we order and command as if it were our pleasure and will and until better informed we provide what is suitable for our benefit and the good of the Republic of New Spain, that the said officials who now and henceforth may be in the said Mint may produce and take from each mark of silver that is thus coined three reales, instead of one real which can be made and taken from each mark of silver in the Mints of these kingdoms of Castile; which three reales shall be apportioned by our Treasurer and the other officials of the said Mint just as and in the way and manner which is apportioned the said real by the said laws and ordinances of the said Mint.

Furthermore, in regard to the copper money, we charge and command you, upon having learned the opinion of some officials who have information about the design and coinage of the said copper, and you being a person who likewise has had experience in this matter, having been our Treasurer of the Mint of Granada, to order in our name the design and metal of the said copper coins, and to have it minted, and to send a report on it to our Council of the Indies; and the duty which our Treasurer and the other officials of our said Mint must levy for the making of said money must be likewise three times that which the officials who coin copper money in these kingdoms levy.

And because for the coining of the said money of silver and copper it is necessary that there be a suitable Mint, I command and order you to see whether in our Court Buildings in the City of Mexico there is a suitable place and equipment to make the said money with the precaution and security that is fitting, and, if in the said buildings there be such suitable place, you shall determine the place for rooms, enclosures, and flooring that may be necessary, and there not being

a suitable place in the said Court buildings for that purpose, nor in the Smelter, you will choose another site, which seems to you most suitable, and on it you will build at our expense a building that will be appropriate, and you will provide that the Indians whom you deem necessary to help with it receive suitable recompense.

And because by reason of some of the said laws and ordinances of these kingdoms, made by the Mints therein, it is ordered that a report be sent to our senior cashiers about those who are excused, coiners, and exempt, etc.; and because those of our Indies Council are wise in the administration of justice as well as in things relating to our estate, we command that all reports which used to be sent to the said senior cashiers, in conformance with the said laws, shall be sent to those of our Council of the Indies who reside in our court so that I may demand to see them and provide what is suitable for our benefit.

Therefore, we command, that with that fidelity and care which we trust in you and which you are accustomed to exercise in other matters in our service and which the office requires, that you, observing the order contained above, shall make the said money of silver and copper and for that purpose you shall name the officials it is customary to have in the other Mints, so that, together with the person who may have the power of the said Treasurer of the said Mint, you shall use the said functions in conformance with the laws and ordinances of the Mints of our kingdoms and in conformance with this order; and you shall have sent to us a report of the officials which you thus name and of their qualifications and abilities so that, upon seeing it (the report), I may make provision for the work as best suits our needs. Signed in the city of Madrid, the 11th of May, 1535. I THE QUEEN. By order of His Majesty.

A.G.I. 96-6-12

PLATES

I



1



2



3



3e



4a



5



5a



5c



EARLY SERIES R



EARLY SERIES
R (5d-6d) — G (8-11)

III



13



14



15



16



19



20



22



23



23a



23b



EARLY SERIES F (13-16)
P-M (19-20) — M-P (22-23b)

IV



EARLY SERIES M-P

v



LATE SERIES — HALF REAL



LATE SERIES — ONE REAL

VII



LATE SERIES — ONE REAL



LATE SERIES — TWO REALES

IX



LATE SERIES — TWO REALES



46b



50f



54



58



62a



74



LATE SERIES — FOUR REALES

XI



78



82



86



86a



94



110



LATE SERIES — FOUR REALES



COPPER MARAVEDIES



COUNTERFEITS

NUMISMATIC NOTES AND MONOGRAPHS

No. 132

CJ
35
1. N9

no 132

COUNTERFEITING
IN
COLONIAL PENNSYLVANIA

By KENNETH SCOTT



THE AMERICAN NUMISMATIC SOCIETY

NEW YORK

1955

THE AMERICAN NUMISMATIC SOCIETY

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NEW YORK 32, N. Y.

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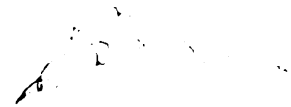
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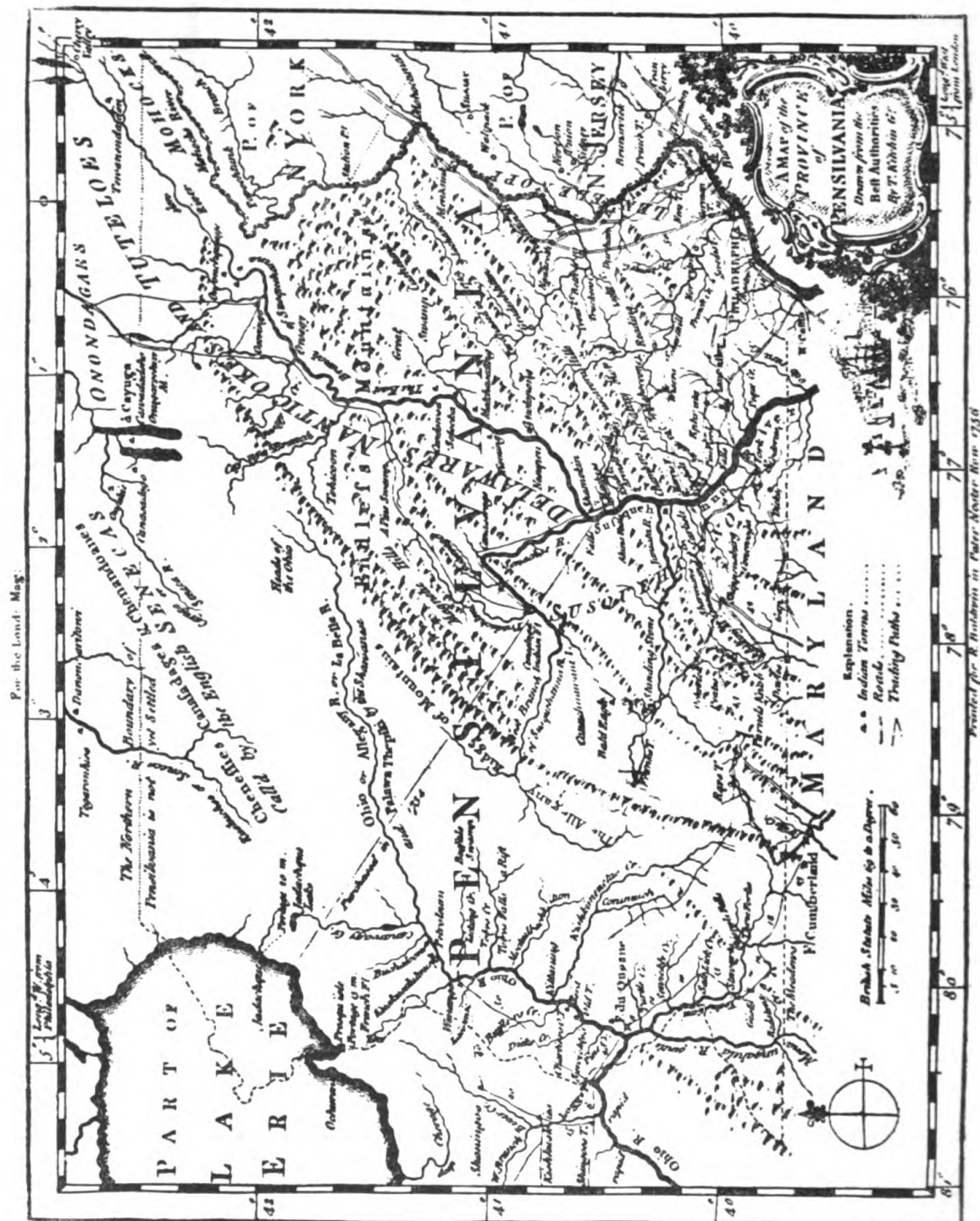
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KITCHIN 1756 MAP OF PENNSYLVANIA
 (Courtesy of THE HISTORICAL SOCIETY OF PENNSYLVANIA)

Counterfeiting in Colonial Pennsylvania

BY
KENNETH SCOTT



THE AMERICAN NUMISMATIC SOCIETY
NEW YORK
1955

CJ
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PREFACE

The author wishes to express his gratitude to the staffs of The Historical Society of Pennsylvania, The New-York Historical Society, The Connecticut State Library, The Hall of Records in Dover, Delaware, The Chester County Historical Society, The Public Library of Morristown, New Jersey, The Reserve Room of the New York Public Library, the Offices of the Prothonotary of the Supreme Court in Philadelphia and of the Clerks of the Courts of Quarter Sessions of Philadelphia, Bucks, Chester, Lancaster, York and Cumberland Counties in Pennsylvania. Special thanks are due Mr. Charles E. Baker, Editor of The New-York Historical Society, who has kindly read the galley proofs.

Harrold E. Gillingham's *Counterfeiting in Colonial Pennsylvania* has been extremely helpful. It was the first book dealing with the problem of colonial counterfeiting but unfortunately made no use of unpublished court records and did not utilize other material, so that a new study of the subject has seemed warranted.

Illustrations have been made available through the courtesy of Judge Oliver Schaeffer of the Court of Quarter Sessions of Lancaster County and Mr. James Brewster, State Librarian of Connecticut.

The chronological treatment of the subject is the same as that used by Gillingham and by the author in his *Counterfeiting in Colonial New York*. In most instances the division into chapters is an arbitrary one.

I

THE SEVENTEENTH CENTURY

The initial record of counterfeiting in Pennsylvania is found in the Minutes of the Provincial Council for a session held in Philadelphia on the 8 mo. 24, 1683. Governor William Penn informed the board that it was convenient a warrant should be sent to arrest some persons on suspicion of passing bad money. Thereupon one Robert Fenton (or Felton), a servant, was brought in, sworn, and questioned. His answers were to the effect that he had received twenty-four pounds of "bard" silver from a certain Charles Pickering to coin for him. He also made the "seales" (dies), and Pickering and Samuel Buckley helped him to coin the bits. He was vague about the amount of copper alloy which was added to the silver, but stated that the silver brought him had already been alloyed and also admitted that Pickering and Buckley sometimes put in more copper than he knew of.

On the warrant, which was promptly issued, Pickering and Buckley were brought before the council, whereupon the governor taxed them with their abuse to the government in coining "Spanish Bitts and Boston money." They then readily confessed that they had put off new bits but claimed that all their money was as good silver as any Spanish coin. They also denied having had any hand in the coining, and Pickering declared that he had heard one John Rush swear that he spent half his time in making bits.

At this the governor turned his attention to Buckley, who made a ready confession that he had taken part in melting money, adding copper alloy, and striking bits, all done together with Pickering's servant, Robert Fenton. He also admitted that he had passed some of the bits.

John Rush, whose name had been mentioned by Pickering, was next summoned and examined, but he denied everything that had been affirmed by Pickering. Then Buckley and a certain Thomas Philips provided security in the amount of five hundred pounds that

Buckley would appear before the council when required and would not leave town without permission. Pickering and Richard Wall¹ furnished bail in the same amount and under the same terms for Pickering. The sheriff was ordered to take Fenton into custody, and the same afternoon a warrant was issued to summon a grand and petit jury for the trial of Pickering and Buckley.

The next day an indictment was ordered drawn up against these two men, and John Symcock, a member of the council, was sent to the Provincial Assembly to request that a certain Griffith Jones be permitted to come before the board to be examined on business of moment. Next, as complaint was made to the council about "New Bitts and New England Shillings," it was decided that a proclamation should be issued forthwith to cry them down.

When Griffith Jones arrived, he stated under oath that Pickering sent him eight pounds in "New Bitts" to pay New England men, who, however, refused to accept the coin; at that he went to Mary Bartholomew, who changed forty shillings for him upon his promise to take them back again.

The following day the Grand Jury found the bill against Charles Pickering "as being a Heynous and Grievous Crime." Pickering pleaded not guilty, whereupon Attorney General John White produced as witnesses Jones and Mary Bartholomew, who told the story related previously by Jones, while one Caleb Pusey also swore that Pickering paid him fifteen pounds in new bits, which were then produced in court. The foreman of the jury asked Pickering from whom he obtained the money which he had paid to several people, but the prisoner sought to avoid answering, replying that he would change the money that any person received of him and that no man should lose anything by him. The jury then retired and soon brought in a verdict of guilty as charged.

Buckley and Fenton were indicted and pleaded guilty, both con-

¹ Charles Pickering and Wall were described as seamen, and some matter in which they were concerned had been before the council this same year. *Colonial Records* (Philadelphia: Jo. Severns & Co., 1852) I, pp. 67, 68, 73.

fessing that together with Pickering they had made the money. Fenton added that he had made the dies for Pickering, having worked a week or more on them and having finished one pair before he absented himself, while the other set was completed afterwards. Both Buckley and Fenton declared that their mint was not located in the Province of Pennsylvania.

The governor now sentenced Charles Pickering for the high misdemeanor of which he had been found guilty: he was to make full satisfaction to every person who within a month should bring in "any of this false, Base and Counterfeit Coyne, (wch will by to morrow by Proclamation be called in,) according to their respective proportions, and that the money brought in, shall be melted into gross" before being returned to him; in addition Pickering was to pay a fine of forty pounds towards building a courthouse in Philadelphia and to find security for his good behavior.

Buckley was considered by the court to have been "more Engenious" than Pickering and was therefore fined only ten pounds to be used for a public courthouse and was required to provide satisfactory security for his "good abearance." Fenton, because he had frankly confessed and was a servant, was only sentenced to sit in the stocks for one hour the next morning.

The day after sentence had been pronounced a proclamation was issued to put down the coins counterfeited by Pickering and to announce that he was to make satisfaction to all persons wronged by him.

Some months later the sheriff brought before the council the grievance of the people concerning the new bits put out by Pickering. When Pickering was asked about the matter he replied that he would give money and plate to satisfy those who had complained. Thereupon the council ordered the sheriff to go to Pickering and receive the same amount of good money as he, the sheriff, had received bad money from the people. Then he was to pay out the good coin to the people who had surrendered to him the false bits.²

² The story of Pickering, Buckley and Fenton (or Felton) as related above is found in *Colonial Records*, I, pp. 84-89 and 91-92.

It is recorded that Pickering's privileges of a freeman were restored in 1685 and that in 1690 he was elected to the Assembly. In his will, by which he left a fairly large estate and which was filed in 1749, he gave his trade as that of goldsmith.³

Felton, or Fenton as he was called in Connecticut, must have removed to that colony, where he had a shop, apparently for metal work. He was not, however, satisfied with legitimate profits, and on January 13, 1699, he was arrested and brought before William Pitkin, assistant. Pitkin examined him closely, asking him first if he had any false money, to which Fenton replied in the negative. When asked if he had any money, he admitted that he possessed one piece of eight, a half piece, two shillings and eight pence, all of which he showed, denying that he had any other coin. At this Pitkin had him searched by a constable, who found in one of Fenton's pockets five pieces of eight, three half joes and one eight pence, all of which were judged to be false.⁴

Fenton then decided to make a clean breast of all he knew about the making of false Spanish and New England money. His declaration before three assistants, William Pitkin, Samuel Willy and Caleb Stanly, and John Haynes, a justice of the peace, was as follows: in the summer of 1698 he had been employed by John Potterfield and the two men together had made about twenty pounds of bits out of pieces of eight (about one shilling's weight of alloy was put in each piece of eight and out of eight pieces of eight from fourteen to sixteen bits were struck) and likewise thirty or forty pieces of eight, each with two shillings' weight of alloy in it. Fenton received from Potterfield one pence for making each piece of eight and half the profit from the bits.^{4a}

³ Harrold E. Gillingham, *Counterfeiting in Colonial Pennsylvania* (New York: The American Numismatic Society, 1939), p. 3.

⁴ Crimes and Misdemeanors (manuscript in Connecticut State Library in Hartford, Conn.) I, fol. 218, Fenton's examination.

^{4a} The word "bit" normally meant one *real* but Fenton was here using the term for a piece of four reales, since out of eight pieces of eight (equivalent to sixty-four reales) he states that he made "Fourteen to sixteen bits."

Another person named by Fenton was John Tedman of Long Island, who induced Fenton to make stamps and tools for coining pieces of eight, half pieces and bits, and together they struck some false money. Tedman paid him for his help with what he said was money of his own (Tedman's) making, and Fenton found that it wanted about half the weight of good coin. Later on, in 1698, about six weeks before Fenton's arrest, Tedman came to his shop and desired him to make stamps for dollars, which Fenton refused to do. Tedman said that he had one hundred and fifty pounds of Arabian metal to make up into money for a privateer about Southold. Fenton refused to help but did promise to call on him at Long Island in April or May and to fetch over ore and coal from Pennsylvania.

Next Fenton mentioned John Hollam of Stonington, Connecticut, who, he said, met him at the smithy of James Dane in Stonington and spoke of ore and mines but he did not directly implicate Hollam in counterfeiting activities. Not so, however, in the case of a Mr. Hornbuckle of Northampton, who, according to Fenton, called on him in the spring of 1698, spoke of metals and showed him a piece of eight. When Fenton said he thought it a good one, Hornbuckle said there was no silver in it but that he had cast it from block tin and copper mixed. Hornbuckle explained how he had cast it and stated that he had put off a considerable number of such counterfeit pieces by himself or through his landlord and others.

Finally Fenton confessed that he had made some stamps or tools for one Messenger, a "joyner" of Boston — he thought his name was Thomas — where for about seven or eight years past he had kept his shop at the south corner of the "Scoole Lane."⁵ Fenton's examination was owned in court on May 18, 1699, but it is not recorded what punishment he received or whether others were then prosecuted. It was doubtless as a result of the Fenton affair that the Connecticut General Assembly in May, 1699, passed legislation empowering

⁵ Robert C. Winthrop Collection (manuscript in the Connecticut State Library in Hartford, Conn.) III, 350a-350b and Crimes and Misdemeanors I, fols. 217a-217b.

justices to bind over convicted coiners to good behavior or to commit such persons who could not find good surety to jail.⁶

Apparently the Pennsylvania council was not convinced by the denial of John Rush, for shortly after the trials of the coiners were concluded "A Warrant Issued out to make search in ye Shop and Lodging of Isack ye Smith, Humphrey Best and Jno. Rush, doe worke for mettles Coynded or uncoyned, Stampd or unstampd, Iron or Steel only excepted."⁷ There is no indication that the search led to the discovery of any incriminating evidence, which is not surprising, as Rush had had some five days in which to remove any evidence of coining. There can, however, be little doubt that he was a rascal and had very likely been engaged in counterfeiting as charged by Pickering. In 1687 his mother-in-law, Elizabeth Shorter, a widow, complained to the council that Rush "in stead of a Letter of Attorney that shee was to signe, prepared a Deed of giffit of all her Estate, with power of Attorney, to one Samll Atkins, to acknowledge the same in Court." The witnesses to the deed were examined and all confessed that the writing was not read to Widow Shorter and that she herself could neither read nor write, so that the document appeared to the council to be "an Absolute Cheat."⁸

During the winter of 1690/91 Cornelius Jacobs, master of a ship bound for Jamaica, discovered that a passenger, John Rush, was a false coiner and had £9/15 in counterfeit money in a bag, "which he delivered to Jacobs heaving something over board in Jamaica." Rush was kept in prison in Jamaica during Jacobs' abode there but, since the crime had not been committed on that island, Jacobs brought back Rush as a prisoner to New York. There Rush claimed that he had received the false coin from Edward Coffee in Philadelphia. The counterfeiting had probably been done in Pennsylvania, where Rush said that he had a family, so the Council of the Province of New

⁶ *Colonial Records of Connecticut* (Hartford: Press of Case, Lockwood and Brainard, 1868) IV, p. 290.

⁷ *Colonial Records*, I, p. 89.

⁸ *Ibid.*, I, p. 207.

York wrote to the Governor of Pennsylvania that Rush was being sent under guard with a copy of Cornelius Jacobs' deposition in order that justice might take place and the truth be better discovered.⁹

The same day a warrant issued by the council instructed that Rush and his bag of false coin be conveyed from constable to constable to Elizabethtown in East Jersey. It was requested that then the justices of the peace or some of them in that town have the prisoner conveyed to some justices in West Jersey, who were asked to perform the like service until the prisoner and money were delivered to the governor or chief magistrate in Philadelphia, there to be proceeded against according to law. The matter was thus submitted to the "prudence and discretion" of the Pennsylvania authorities.¹⁰ From the silence of the Minutes of the Provincial Council of Pennsylvania on the subject, it is possible that Rush may have escaped en route, though he may, of course, have been tried.

On the 3rd of 8 mo., 1689, one Thomas Lasy, previously a servant of Richard Few, deceased, was presented by the Grand Jury of Chester County "for Stamping and making Base and counterfeite peeces of Eight and Bartering and Exposing ye same for goods and other merchandize." Lasy confessed his guilt and was sentenced to stand at the public place of correction in Chester on two different court days for three hours each day. Upon his breast was to be affixed a paper with his crimes written in capital letters, and he was to remain in the custody of the sheriff until he should give good security to perform this judgment and pay his fees.¹¹ At the October session of the Chester County Court John "Simcocke" informed the justices that "Robert Wade passing by Thomas Lasy who was suffering ye last Courts sentance reflectingly s^d what Law hath he broaken or what Kings law hath he Broaken."¹² From the silence

⁹ New York Colonial Manuscripts (in the New York State Library in Albany), vol. 37, p. 173a.

¹⁰ *Ibid.*, vol. 37, p. 137b.

¹¹ *Records of the Courts of Chester County, Pennsylvania 1681-1697* (Philadelphia: Patterson & White Co., 1910), p. 176.

¹² *Ibid.*, p. 185.

of the court records, however, it seems likely that no action was taken against Wade for his criticism of the court.

In 1691 two cases of counterfeiting in Pennsylvania are recorded. A certain Richard Thomson of Haverford was indicted by the Grand Jury of Chester County "for That about fiteene monthes since hee did Confess That hee made of one peece of Eight a dozen bites [bits] and passed them away and alsoe made Stamps for others; contrary to Law in that Case made and provided."¹³ No trial or punishment is recorded, so there may have been no prosecution. In any event he was at large the next year and again in difficulties with the law, for in the summer of 1692 he was presented for ranging the woods and for taking up of horses saying he was a ranger "but" in the words of the indictment, "we find him not fitt for that honest Trust." He was also indicted at this time for taking "Jonathan Hays horse" and converting it to his own use. At the same session he was likewise presented, together with Owen Magdaniell and Daniell Ryley, "for riding & ranging on first days as well as on other days & for firing a pistill Lat at night at John Calverts window to his and his wifes great afrightment," offenses which cost Thomson a fine of three pounds.¹⁴ Sometime thereafter he apparently removed to Marple, for in an indictment of 1696/97 he is described as a blacksmith there and is presented for assaulting and beating one Edward Beck.¹⁵

The other counterfeiting case of 1691 was that of Charles Butler, indicted at the provincial court held on the "24th 7ber, 1691," in Philadelphia, "for uttering & paying away severall pieces of false monie, of false mixt mettall, to the Likeness of Spanish Coyn, called peices of eight, wch hee craftilie, falslie, deceitfullie, & tratourouslie, to defraud the king & his people, (wtout anie authority of Licence from the King & Queen to him given,) Contrary to the Laws in such case made & provided." The petit jury's written verdict, dated "Philadelphia, the 26th of ye 7th mo., 1691," was: "Wee of the Jurie do find Charles

¹³ *Ibid.*, p. 251.

¹⁴ *Ibid.*, pp. 263–264.

¹⁵ *Ibid.*, p. 406.

Butler guiltie of dispersing bad monie.” David Lloyd, Clerk of the Court, according to a petition made by Butler in 1693, then made an addition to the verdict, whereby Butler had sentence pronounced against him for misprision of treason, “viz: That he shall forfeit his goods and chattells forever, and the profitts of his Land during his Life, and be Imprisoned during his Life.” Butler maintained that the petit jury, hearing of and reproving Lloyd’s action, demanded their verdict and, with the consent of the bench, went forth and wrote their verdict again in the words they had formerly used. To Butler’s charge Lloyd made reply that he added nothing to the verdict and that what was added in the records was for form’s sake, that it was made up after sentence had been passed, and that it therefore could not be the cause of the sentence.

The council, after a full debate of the matter, found in Butler’s complaint matter of law against David Lloyd not cognizable by the lieutenant governor and council. Since, however, the sentence of misprision of treason seemed “verie severe agt ye petitionour, for being only found guilty of dispersing bad money,” the council desired the governor, or, in his absence, the lieutenant governor, to grant Butler a pardon.¹⁶

In 1698 some of the small coin circulating in Pennsylvania had been counterfeited, as is shown by the following petition to the general assembly, dated “Philadelphia the twenty first day of the third month” and signed by some fifty-three citizens. It read: “WHEREAS your petition’s being Inhabitants of this province and being given to understand that there is great Quantities of Leaden and pewter farthings & half pence whereby your petition’s are likely to be mutch Damaged by Reason such great Quantity’s are Liable to be Crowded upon us.

“Now these are to Protest & humbly Interest that you would be pleased to make an act of Assembly That all such farthings & half pence that are made of Lead & pewter may be wholly suppressed & Cryed Down and only those of Copper which are the Kings Coyn may

¹⁶ *Colonial Records*, I, pp. 383 and 386.

pass the farthings for two a penny & the half pence for a penny."¹⁷ The petition, after being read in the assembly and referred to further consideration, was sent to the Provincial Council and then taken to the governor by Samuel Richardson and Anthony Morris.¹⁸

¹⁷ John Fanning Watson's ms. of the "Annals of Philadelphia" (Coll. of The Historical Society of Pennsylvania); *Pennsylvania Magazine of History and Biography*, April, 1931, January and July, 1933; Harrold E. Gillingham, *op. cit.*, pp. 6-7.

¹⁸ *Votes and Proceedings of the House of Representatives of the Province of Pennsylvania* (Philadelphia: B. Franklin and D. Hall, 1752) I, p. 105.

II

THE YEARS 1700-1729

On the 14th day of the 11th month, 1700, Jeremiah Collett, Jr., of Chester County, was indicted by the Grand Jury of that county "for that he at or about the 2 day of the 10. month last did fraudulently expose peces of lead and potsherds unto John Stubbs of this county for current silver money of this province."¹ Collett's father, who was a justice of the peace,² obliged himself to bring his son to the next court or to appear himself and abide the judgment of the court.³ In accordance with his obligation Jeremiah Collett, Sr., on the 11th day of the first month, 1700/1701, appeared for his son on the presentment of the last court and referred it to the mercy of the bench, whereupon the court discharged him upon payment of fees.⁴

A certain John Satell on February 3, 1702, was presented by the Grand Jury of Philadelphia County for having passed on January 2 counterfeit coin to Ann Simes at her husband's house in the city. The jurors stated in the indictment that in Satell's pocket was found metal from which they thought the bad money had been made.⁵

The next case of counterfeiting that has been recorded is more than a decade later. Mary Perkins on March 12, 1713, petitioned the Common Council of Philadelphia for the release of her husband, George, then in jail for counterfeiting, and for the return of his goods which had been seized. She pleaded that she had three small children and no means of support, whereupon the council, moved by her plea, granted her petition.⁶

¹ Ms. Copy of the Old Court Records of Chester County (in the Chester County Historical Society), Vol. II (1697-1703), p. 65. The Original Records are in the Office of the Clerk of the Court of Quarter Sessions of Chester County.

² *Ibid.*, II, p. 137.

³ *Ibid.*, II, p. 67.

⁴ *Ibid.*, II, p. 72.

⁵ Gillingham, *Counterfeiting in Colonial Pennsylvania*, p. 7.

⁶ *Ibid.*, *op. cit.*, pp. 7-8.

A few years later two men were indicted by the Grand Inquest in Philadelphia for passing counterfeit coin: John Jay, a cordwainer, of Philadelphia was presented on October 31, 1717, for passing to Margaret Tench several false pieces of eight, while Rice Price, a slaughterman, also of the same city, was presented on June 30, 1718, for uttering to a certain Samuel King "for good and lawful money one Counter Made of Brass for the sum of Ten Shillings and Sixpence."⁷ Jay pleaded not guilty, but nothing further is known of the outcome of his case or of that of Price.

At a Court of Oyer and Terminer for the City and County of Philadelphia, held on October 17-19, 1720, Edward Hunt, described as a "White-Smith," and his wife, Martha, were indicted, he for counterfeiting Spanish coin which was current in the colony, and she for passing the same, knowing it to be counterfeit. Both pleaded not guilty but, as the fact was fully proved upon them and the stamps and false coin were found in their possession, the jury brought them in guilty. Thereupon Chief Justice David Lloyd sentenced Edward Hunt to death and Martha to be fined five hundred pounds and to be imprisoned for life.⁸

On November 5 it was reported to the Provincial Council that Attorney General Andrew Hamilton had informed the lieutenant governor that Edward Hunt, convicted of high treason, lay in the jail of Philadelphia under sentence of death but that no execution had yet been awarded, in so far as he knew. One of the judges, who was present, informed the members of the council that, since the lieutenant governor had been absent, the judges had "delayed awarding the Execution" to give the criminal a reasonable time to appeal to the lieutenant governor. Lieutenant Governor William Keith, since only a few members of the council were in attendance,

⁷ Indictments among Court Papers (1715-1790) in the Manuscript Collection of The Historical Society of Pennsylvania.

⁸ *The American Weekly Mercury*, Oct. 20, 1720, p. 3; *The Boston Gazette*, Nov. 7, 1720, p. 2; cf. John Thomas Sharf & Thompson Westcott, *History of Philadelphia* (Philadelphia: L. H. Everts & Co., 1884) I, p. 201, and Gillingham, *op. cit.*, p. 10.

proposed an adjournment to November 9 and that in the meantime a warrant issue.⁹

The council convened on November 9, with Lieutenant Governor Keith, Richard Hill, Samuel Preston, Jonathan Dickinson, James Logan, the secretary, present. The Attorney General, Andrew Hamilton, also attended at the governor's desire, and Saturday, November 19, was appointed as the day for Hunt's execution.¹⁰ It was again urged by some of the members, according to the minutes,

that Edward Hunts Crime (viz. High Treason for counterfeiting the current Coin,) being the first offence of that Nature, whereof any Person has been yet convicted in this Colony, it therefore seemed to claim some Compassion, but all agreed that there was nothing to be said in behalf of the Criminals former Character, personal merit or Behaviour. One of the Judges present seemed for the above Reason to incline that Hunt should be reprieved, until the Kings Pleasure could be known, but declared at the same time, that his Compassion for the Criminals circumstances did not proceed from any Ground of Dissatisfaction with any part of the Evidence upon the Tryal, which appeared to him sufficient to infer Conviction and the legal Sentence that had been pronounced. Those who spoke on the other side urged the nature of the Crime, and the Necessity that there was in all civil Governments to make some public Examples, the want of any merit in the Criminal, and the very little or no Service at all that a Reprieve to so miserable a Life could be to him.

The members present being equally divided in their Opinions, it was left to the Governor to do therein as he thought fit.¹¹

Lieutenant Governor Keith's decision was to let the law take its course. Hunt, who had been captured in the Rebellion at Preston and transported as a bound servant to the Island of Antigua, made a dying speech at Philadelphia before his execution for the crime of high treason in counterfeiting Spanish silver coin which by Act of Parliament had been made current within all of the King's colonies in America. In the speech he stated: "God knows I did not do it with

⁹ *Colonial Records*, III, p. 109.

¹⁰ *Ibid.* III, p. 109 and *The American Weekly Mercury*, Nov. 17, 1720, p. 3.

¹¹ *Colonial Records*, III, p. 110.

any Design to cheat or defraud any one, or to make a Practice of Coining; but being ignorant of the Breach of any Laws of God or Man, I thought I might cut those Impressions as innocently as any other, or the Stamps that the Gentlemen of this place imploy'd me about, to make Farthings." The condemned man, claiming to be "the first unhappy Instance of this kind that ever suffered in the King's Dominions," expressed his forgiveness of John Moore and Morris Birchfield "and the Evidence that swore against me in that Tryal" and maintained his innocence "of anything laid to his charge by John Butler, either in *England* or *Ireland*."¹²

An act of May 11, 1722, authorized the emission of £15,000 in bills of credit and provided that

if any Person or Persons whatsoever shall presume to counterfeit or be Aiding or Assisting in Counterfeiting any of the said Bills of Credit, or utter or cause to be uttered any Bill or Bills (knowing the same to be false and counterfeit) of the Tenor or in Imitation of any of the said Bills of Credit, made current by this Act, and be thereof legally convict, he, she or they so offending shall be set upon the Pillory in some open publick Place, and there have both his or her Ears cut off, and be publicly whipp'd on his or her bare Back with Thirty-one Lashes, well laid on; and moreover, shall forfeit the Sum of *One Hundred Pounds* current Money of *America*, to be levied of the Lands and Tenements, Goods and Chattels of such Offenders; and shall pay to the Party grieved double the Value of the Damage sustained by the said counterfeit Bills, together with the Costs and Charges of Prosecution: And in Case the Person or Persons so convicted have not sufficient to satisfy the Party for his or her Damages and Charges, and to pay the Forfeiture aforesaid, then and in such Case the Offender or Offenders shall, by the Order of the Court before whom such Offender was convicted, be sold for any Term not exceeding seven Years for Satisfaction of the same.¹³

Somewhat more than a year later an act of December 12, 1723, for emitting £30,000 in bills of credit made much the same provision against counterfeiters in the following terms:

¹² *The American Weekly Mercury*, Nov. 24, 1720, pp. 2-3.

¹³ *A Collection of All the Laws of the Province of Pennsylvania: Now in Force* (Philadelphia: B. Franklin, 1742), pp. 237-238.

And Be It Further Enacted by the Authority aforesaid, That if any Person or Persons whatsoever shall presume to forge or counterfeit, or be Aiding or Assisting in Forging or Counterfeiting any of the said Bills of Credit, or utter or cause to be uttered or offered in Payment, any Bill or Bills (knowing the same to be actually forged or counterfeited) with an Intent to defraud any other Persons, and be thereof legally convicted, he, she or they so offending shall be set upon the Pillory in some open publick Place, and there have both his or her Ears cut off, and he publicly whipp'd upon his or (her) bare Back with Thirty-one Lashes well laid on; and moreover shall forfeit the Sum of *One Hundred Pounds*, current Money of *America*, to be levied of the Lands and Tenements, Goods and Chattels of such Offenders, the one Half thereof to the Use of the Government, and the other Half thereof to the Discoverer. And the Offender shall pay to the Party grieved double the Value of the Damage sustained by the said counterfeit Bills, together with the Costs and Charges of Prosecution. And in Case the Person or Persons so convicted have not sufficient to satisfy the Party for his or her Damages and Charges, and to pay the Forfeiture aforesaid, then and in such Case, the Offender or Offenders shall, by Order of the Court before which they were convicted, be sold for any Term, not exceeding Seven Years, for Satisfaction of the same. And in such Case the Trustees of the said Loan Office shall reward the Discoverer and Prosecutor of such insolvent Offenders to the Value of *Five Pounds*.

AND that all Magistrates and others, into whose Hands any counterfeited Bills may happen to come, shall forthwith deliver the same to one of the Trustees of the said Loan-Office, who shall cause the Names of those that delivered them, and of the Persons from whom they were taken, to be indorsed on the Back thereof; which Bills shall be safely kept in the said Office, and be forthcoming when there may be Occasion to make Use of the same.¹⁴

Despite the provisions of these acts, the temptation soon proved too strong for counterfeiters, as is shown by the following notice which appeared in *The American Weekly Mercury* of November 28, 1723: "Whereas several of our Bills of Credit have been of late found Counterfeited (that is the *One* and *Two Shillings* turned into *Ten*) These are therefore to desire all Persons that receive any Bills to take

¹⁴ *Ibid.*, p. 286.

particular Care by Reason the Heads of each sort of Bills differ, there is a Vote of the Present Assembly for giving a Reward of *Ten Pounds* to those that shall discover the Counterfeiter."

Within the next month or two a certain William Sinton was taken up and committed to the jail of New Castle for forging the paper currency. On January 18, 1724, Sinton broke out of the county jail and Rowland Fitz Gerald, the Sheriff of New Castle, offered a reward of ten pounds for his apprehension, describing him as "a short fresh Coulered Man, about Twenty three Years of Age, wears a light Bobb Wigg and Cinamon Coulered Cloaths, by Profession a *Quaker*."¹⁵

At a Court of Quarter Sessions of Chester County, held at Chester on February 3, 1724, a certain Moses Harland was indicted for counterfeiting bills of credit. The jury, however, returned the presentment Ignoramus, and Harland was discharged, paying his fees.¹⁶

The American Weekly Mercury of Tuesday, February 4, 1724, carried this advertisement:

These are to give Notice, that there was stolen out of the Printing-House in Philadelphia, 5 or 6 sheets of the 20s. and 5s. Bills, of the New Impression Paper Money, some of which were signed and uttered by one *John Jones*, who was apprehended on Thursday last and brought before the Mayor of this City, and Confessed the Fact, some Bills being found about him unsigned, and as the Officer was carrying him to Goal he made his Escape from him, leaving his Coat behind him. He is a Tall Slender Lad, of a pale Complexion, about Eighteen Years of Age, he wears a light bobb Wigg, but it is uncertain what other Cloaths he has on. Whosoever takes up the said *John Jones* and brings him to *Philadelphia* Goal, shall have *Fifteen Pounds* as a Reward and all Reasonable Charges, paid by

Andrew Bradford.

The same newspaper of June 27, 1727, mentions a John Jones of Conestogo being in jail in Philadelphia, so it is possible that the counterfeiter was taken.

At the Court of Record held in July, 1725, in Philadelphia one Richard Kinner was convicted of counterfeiting and passing a Penn-

¹⁵ *The American Weekly Mercury*, Jan. 28, 1724, p. 2.

¹⁶ Ms. Quarter Sessions Docket, Chester County, 1723-1733, p. 45.

sylvania twenty shilling bill. In accordance with the law of the province then in effect he was sentenced to be set on the pillory in the market place of the city; then he was to have both of his ears cut off, was to be given thirty-one lashes on the bare back, was to forfeit £100 and was to pay double damages to the party grieved.¹⁷

At some time previous to February 6, 1727, one John Hawkins had been convicted at a Court of Record in Philadelphia of counterfeiting and uttering a Pennsylvania bill. It may be presumed that in accordance with the law he was set in the pillory, had both ears cropped, was given thirty-one lashes, was required to pay double damages to the person aggrieved and costs of prosecution and prison charges, as well as a fine of one hundred pounds. In any event, on that date, Hawkins petitioned the common council of the city to remit the fine of one hundred pounds, as he did not have the means to make satisfaction. The council promptly ordered the Treasurer of Philadelphia to take the petitioner's bond for that sum, "payable immediately."¹⁸

At the same time one Lawrence Wolverston, who was also in jail for passing counterfeit paper money, made a similar request, which was granted. The jailer, however, did not release the two criminals because they had not the means to pay their court charges; Hawkins and Wolverston therefore again petitioned the council to order their release. The matter was taken up at a meeting on March 22, 1727, and the board decided that, since the Corporation had previously taken the prisoners' bonds with interest for their fines, the men should be now set free, as they were remaining in jail only on account of the fees and prison charges. The council further notified the sheriff that the prisoners had remained in jail at his cost ever since the date when their bonds were taken.¹⁹

On March 16, 1727, *The American Weekly Mercury* carried the following:

¹⁷ *The American Weekly Mercury*, Jan. 11, 1726, p. 2, and *The Boston Gazette*, Feb. 28, 1726, p. 2.

¹⁸ *Minutes of the Common Council of the City of Philadelphia 1704 to 1776*, p. 227.

¹⁹ *Ibid.*, p. 279.

Caution to the Publick, by the Printer: In Order to prevent their being further Imposed upon by the Counterfeit *Jersey Bills*, which have lately been discover'd, viz. *Three Pound Bills*, *Twelve Shilling*, *Six Shilling*, *Three Shilling*, and *Eighteen Penny Bill*. The *Three Pound Bills* are distinguisht by the misspeling the word Publick, wherein the (b) is wanting. The *Twelve Shilling Bills*, in the Flourish on the Top is the Representation of a Basket, the Chequers of which are much finer than those of the true Bills; and the Stars smaller, in the *Six Shilling Bills*, the Text Letters are considerably larger than those of the true ones. The *Three Shilling Bills* are distinguisht by the largeness of the Text Letters, when Compared with the true on's: The *Eighteen Penny Bills* are so well Imitated (as indeed are all the rest) that it's a Difficult matter to know the bad from the others, only by the following general Rules, which is thus:

The Paper is much Courser and Thinner, the Signers Names are made with faint pale Ink inclinable to a red Purple, and at the end of R L *Hooper*. the Point is wanting, which may be generally observ'd in the true Bills, sign'd with that Name, and the Stars in all the Bills (which has them) are much smaller than in the true Bills.

The persons responsible for putting into circulation these counterfeits, imported from Ireland, namely David Willson and David Wallace, were arrested in New York City on the morning of March 14. On them were found New York and New Jersey counterfeits and also twenty-three Pennsylvania bills of five shillings and one of one shilling.²⁰ Both men were convicted in the Supreme Court of Judicature in New York City and were punished severely by the pillory, flogging, carting and imprisonment in New York, Kings, Queens, and Westchester counties.²¹

It was only natural that the authorities were disturbed. Patrick Gordon, Lieutenant Governor of Pennsylvania and the Counties of New Castle, Kent and Sussex, on March 30, 1727, addressed the speaker and members of the House of Representatives of Pennsylvania in these terms:

²⁰ *The American Weekly Mercury*, March 23, 1727, pp. 1-2; *The Boston Gazette*, April 3, 1727, p. 3; *The New-York Gazette*, March 20, 1727, p. 2.

²¹ Cf. Kenneth Scott, *Counterfeiting in Colonial New York* (New York: The American Numismatic Society, 1953), pp. 26-30.

The Weather and Floods having prevented Your meeting on the 27th Instant pursuant to Your last Adjournment, I thought it notwithstanding, as soon as a sufficient Number to make a House were in Town, to enable You, as I now do, to Act again: and altho' I understand you are still for the Reasons that have been mentioned, much short of being full, yet I cannot decline laying before you a Matter of vast Importance to the whole Country, which requires all our Attention, and your serious Application.

This *Gentlemen*, is the Horrid Attempt of some of the Wickedest of Men, to adulterate the Bills of Credit of our Own and the Neighbouring Provinces, first discovered by me at *New-Castle*, and since more fully by his Excellency the Governour of *New-York*, who had advised me of his Success in Apprehending two of the Criminals there.

The design appears to have been laid so deep, and to such an Extent, that it may not unjustly be compared to the Poisoning the Waters of a Country; the blackest, and most detestable Practice that is known, and which the Laws of Nations, and those of War condemn even in declared Enemies; for as that destroys the Lives of the innocent in taking their Natural Food, this would effectually overthrow all Credit, Commerce and Traffick, and the mutual Confidence that must subsist in Society, to enable the Members of it to procure to themselves and Families their necessary Bread.

We have seen large Quantities of the *Counterfeit Bills* of our Neighbouring Colony issued in this Province to the great loss of its Inhabitants, and I am credibly informed, the design has been laid to pour in upon us a Flood of our Own Bills Counterfeited from *Ireland*, where they have so artfully imitated most of those of Jersey, that it requires more skill to distinguish them, than is to be expected amongst the common, and especially amongst Country People.

Therefore to prevent the Importation, and spreading of these Bills, if possible, and to provide for the Apprehending and Punishing of the Importers, or Counterfeiters, and such as shall knowingly utter the same, in a manner more adequate to the Crime, than is yet provided by the Law, is what I must now earnestly recommend to your most serious Consideration, lest such Provision should be too late, and the Credit of our Bills should sink, which, for the fatal Consequences that you are sensible must attend that unhappy Event, should be guarded against with the utmost Care.²²

²² *The American Weekly Mercury*, April 6, 1727, p. 1, and *Colonial Records* III, pp. 267-268.

The next day David Lloyd, as speaker of the House of Representatives, made the following reply to the lieutenant governor's message:

We have the pleasure to assure the Governour, that we so far agree with his Sentiments, as to Order a Bill to be prepared for making the detestable Crime of Falsifying or Counterfeiting our Bills of Credit more Penal than it was by the former Acts.

And if the Governour pleases, since he is informed that some of the first Impression of our Bills are intended to be brought in Counterfeited from Ireland, we now propose to call in the Remainder of those Bills to be Exchanged in the Loan-Office for others of the same Value, which we hope will be an Effectual Method to prevent Counterfeits, and support the solid and just Credit of our Paper-Currency.

But that the People of this Province may not suffer by their Neighbourly good Will in giving a Voluntary Credit to the Paper Bills of New-Jersey; We do earnestly request, That the Governour would be pleased to use his Interest and best Offices with the Governour and Assembly of that Province, to take some Effectual Care to prevent the pernicious Consequences of having their Bills of Credit Counterfeited and Uttered amongst us; and also in Case any Persons are apprehended in any part of this Government, for having Uttered Counterfeit or Falsify'd Bills of New-Jersey, that the Governour would please to give Direction to the proper Officers to deliver over such Criminals into the Hands of the Magistracy of that Province, with such Evidence as can be found in Order to their being Punished according to Law.²³

The lieutenant governor's action, combined doubtless with the interest of New Jersey itself, resulted in New Jersey's striking new bills to exchange for those of the issue dated March 24, 1724, because they had been so widely counterfeited, and fixing the first Monday in November, 1728, as the day when the currency of the bills of March 24, 1724, was to end.²⁴ The new emission was printed for New Jersey by Samuel Keimer, who took pains "to prevent its being easily counterfeited."²⁵

²³ *The American Weekly Mercury*, April 6, 1727, pp. 1-2.

²⁴ *Ibid.*, Aug. 15, 1728, p. 2.

²⁵ *The Pennsylvania Gazette*, Dec. 24, 1728, p. 4.

Lieutenant Governor Gordon had been correct in his fears of further counterfeiting in Ireland. On July 30, 1729, the sloop *Charming Sally* from Dublin arrived in Philadelphia, and one of the passengers immediately gave information that there was on board a quantity of counterfeit New Jersey bills, which were found in the chest of a certain Eanon, a passenger who died during the crossing. The mayor and magistrates at once ordered an investigation by the sheriff, who found in Eanon's chest some 118 unsigned counterfeit New Jersey bills of the new, current emission and deposited them with Mayor Thomas Lawrance. It was believed that a greater amount of these bills had gone to Burlington on the ship *Woodside Galley*, on which Eanon had taken passage and shipped a quantity of goods but had been left behind himself.²⁶

Further light was shed on Eanon's doings and those of his associates in a dispatch dated "Amboy, September 23, 1729," which appeared in *The American Weekly Mercury* of September 25. It was probably composed by a magistrate of Amboy and reads as follows:

On Friday Night last, one *William Scot*, was Apprehended in *Woodbridge*, for Uttering one of our 18 Penny Bills, who on search, own'd he had Five more of the like Bills; he had a Parcel of Ribbons, and said he got them for some of the said Ribbons he sold on *Long-Island*, but from whom he could not tell. The Justice there sent him to our Goal in this City, being betwixt 11 and 12, at which time I went to the Prison and had him strip'd, (the Justice of *Woodbridge*, having only searched his Pockets) and had a thoro' search, but could find no more Counterfeits, but found on his Examination, that there was great reason to suspect him; next Morning the Mayor and Aldermen, after some search, Examined him; on which we dispatch'd an Express to Acquaint his Excellency therewith, to know what Bills he had Passed on the Road; and to have his Chest searched, which we suspected was at his Lodgings in *New-York*. Our Governour gave Orders to search his Lodgings and other suspected Places, but *John Thomson* the Express we sent, Braced his Chest and Bedding, to be put on board of the *George* and *John, Anthony Adamson* Commander, and likewise

²⁶ *The Boston Gazette*, Aug. 11, 1729, p. 2.

found sundry of our Counterfeit-Bills, pass'd in *New-York*, and on the Road, by the said *Scot*.

Yesterday the said *Thomson* returned, on which we went on board of the said Ship, and Demanded the said *William Scot's* Chest and Beding, which was Delivered by the Captain, and on search we found in a false Bottom of a small Trunk 476 Counterfeit Bills, Sign'd but not Numbered, and 106 Bills neither Sign'd nor Numbered; on which we went to the said *Scot* and acquainted him therewith, who on his Examination did depose, that this *Adamson* had carried one of the said Bills (he believed) from hence to *Dublin*, and that in Company with the said *Adamson* and *Thomas Eanon*, the said *Adamson* told them, that if they could get the like Printed, they would get Money enough by them, for that they Pass in those Parts as well as Gold or Silver, that the said *Eanon* agreed with the Printer, whose Name the said Deponent was sworn not to discover, that they paid their Proportions to *Eanon* for Printing, and that they divided the Bills betwixt them, but does not own what Number; he affirms they had not a Thousand each, that the said *Eanon*, *Adamson*, and himself, the said *Scot*, had all the Bills, and that there was no other concerned with them in that Affair. The Captain we had Examined, as well as all his Men, and his Ship searched, but they all deny that they knew any thing of the said *Scot*, or ever see him but at *Salem*, in *New-England*, where the Ship Landed her Passengers, and the said *Scot* came first into those parts, and when he put those things on board in *New-York*. As there is great reason to suspect, the Captain. he was committed likewise last Night to our Goal, but are in hopes to fix the Passing Part of the said *Bills* on him.

The Pennsylvania Gazette of October 2, 1729, reported: "We hear from Amboy, that all the Persons concern'd with *Eanon* (the same that dy'd at Sea in his Passage from Dublin to this Place) in counterfeiting the 18d Bills of New Jersey, are apprehended and secur'd in their Prison. It is not found that any other of the New Bills are counterfeited but those of 18d. And it is remarkable that all Attempts of this Kind upon the Paper Money of this and neighbouring Provinces have been detected and met with ill Success."

A dispatch from Perth Amboy dated November 1 appeared in *The American Weekly Mercury* of November 6 and read:

At a Special Court of Oyer and Terminer, held at Perth-Amboy, on Wednesday, the 29th of *October* last, were Tryed at the said Court one *Anthony Adamson* and *William Scot*, for Counterfeiting the Bills of Credit of this Province of *New-Jersey*, and for uttering the same, who were found Guilty of the Crime so charged upon them. And the Court gave Judgment against them, as followeth, viz.

That you the said *Adamson*, be taken into a Cart at the Prison Door, on Friday the last Day of *October*, and so Carted thro' the Streets of *Perth-Amboy*, with a Roap about your Neck; and that you be, about Eleven a-Clock in the Forenoon of the same Day put into the Pillory, and there to continue for an Hour, and from thence Carried with a Rope about your Neck to *Woodbridge*, to the Meeting-House of the said Town, thence to the Square before Mr. *Herd's* Door, and to stand in the Cart a quarter of an Hour: and that you have a Paper fixed on your Back and Breast, declaring your Offence, with one of the Counterfeit Bills fixed thereto; and from thence back to the Goal, there to remain until you pay the Fees and Charges.

The same Sentence was pass'd on *William Scott*, with this Difference, he was to be Carted to *Piscataway*, and not to be inflicted on him until Saturday the Fifteenth of November.²⁷

²⁷ The same general account is given by *The Pennsylvania Gazette*, Nov. 6, 1729, p. 2.

III

THE YEARS 1730-1739

The *Pennsylvania Gazette* of February 19, 1730, informed the public of a new attempt to forge the currency. The account read: "Last Week some counterfeit Five Shilling Bills of our Currency were passed here; but as they were clumsily done, upon mean Letter and ordinary Paper, and very unlike the Originals, they were soon discovered, and trac'd to One who was lately in Town from New-Castle. Orders are sent down to examine him about them. It is supposed they are come from the *old Quarter*; tho' 'tis surprising that a Course of ill Success is not a sufficient Discouragement to such Practices."

The results of the investigation that had been ordered are not known but on July 8, 1730, a counterfeiter of coin was taken up in Philadelphia. The most extensive account of the affair is the following:

"Yesterday was apprehended one *Zachariah Field* on suspicion of Counterfeiting the current Money, upon an Information from a Person in *New-Castle* to our Governor's Secretary, of his having uttered several pieces in his Progress from *Virginia*. He was search'd and there was found in his Pockets some Pistoles, Pieces of Eight and Dollars, and an unfinish'd piece, supposed a Pistole, not coloured like Gold, all Counterfeit. Upon his Examination before the honourable Mayor and Aldermen in Court he would make no Confession. A Person was dispatch'd to *Frankford*, where he had left his Horse, to search his Saddle Baggs, who found 101 Counterfeit Dollars. He is a New-England Man by birth, Personable, Stout and very active in manly exercise, and very understanding in any Mettal Work."¹

Another report of Field's arrest states that he was pursued by a Hue and Cry from the Lower Counties and that the dollars in his portmantle were of "very ordinary workmanship."²

¹ *The American Weekly Mercury*, July 9, 1730, p. 4; this item is reprinted in *The Boston Gazette*, July 20, 1730, p. 2.

² *The Pennsylvania Gazette*, July 9, 1730, p. 4.

In November he was tried on two indictments. In the first he was charged with high treason in counterfeiting the coin of another kingdom made current by an Act of Parliament in the British dominions, on which indictment he was acquitted. The other presentment was for misprision of treason, in counterfeiting the coin of another kingdom not made current by any Act of Parliament. On this indictment he was found guilty and was sentenced to forfeit the profits of all his lands during his life, to forfeit all his goods and chattels, and to be imprisoned during life.³ His trial took place before a Court of Oyer and Terminer of the County of Philadelphia, and his false dollars were described as "Lyon Dollars."⁴

At a Court of Quarter Sessions of Lancaster County, held in Lancaster on May 2, 1732, Robert Teas was indicted for knowingly passing a ten shilling Pennsylvania bill, to which indictment he pleaded not guilty. The case was tried, with Joseph Growden as prosecutor, and Teas was convicted. His sentence was that he be set upon the pillory, be publicly given thirty-nine lashes on his bare back, pay a fine of one hundred pounds, one half to the government and the other half to the discoverers, pay the parties grieved double the value of the bill and also pay all costs.⁵

The Pennsylvania Gazette of December 19, 1732, contained the following account of the counterfeiting of Pennsylvania twenty shillings bills:

Last Monday se'nnight in the Evening, three Men went into the Indian Prince Tavern, and having call'd for some Liquor, one of them offer'd a new Twenty Shilling Bill to be chang'd for the Reckoning. Mr. R. *Brockden*, Master of the House, suspecting it to be a Counterfeit, went with it immediately to A. *Hamilton*, Esq; (under Pretence of going out to get Change) who caused them presently to be apprehended. Upon Examination,

³ *The American Weekly Mercury*, Nov. 12, 1730, p. 4.

⁴ *The Pennsylvania Gazette*, Nov. 12, 1730, p. 4 and *Pennsylvania Archives*, I Ser., I, p. 280.

⁵ Lancaster County Road Docket 1, 1729 to 1742 (verbatim copy of the original docket made by F. Kilburn in 1880), p. 45. The sentence was the full sentence prescribed by the law then in force.

two of them appeared innocent, and were discharged; the third, who offer'd to pass the Bill, being ask'd how he came by it, answer'd that he brought Hogs to Town to sell, and had taken it of a Woman unknown in the Market: Upon searching him, two more of the same sort were found in his Pocket-book, all which he said he had taken for Pork. From the Indian Prince he was carried over to another Tavern, where he had put up his Horse, in order to see if he had any Bags wherein more Bills might be found. While the Examination was continuing there, a Woman Stranger in the outer Room was observed to appear somewhat concern'd; upon which she was call'd in, and ask'd, if she knew that Man: she answer'd Yes, he was her Brother; being ask'd if she had any Money about her, the Man was seen to wink at her, and she answer'd, No; but attempting to slide her hand into her Pocket, the(y) prevented her, and brought the Woman of the House to search her, who found in her Pocket twenty-three 20s. Bills of the same Sort. The Fellow finding the Story of the Hogs would not answer, nor any other Shuffles avail him any thing, betook himself at last to make an ingenuous Confession. He said that one *Grindal* who arrived this Summer in Capt. Blair from *Ireland*, got 600 20s. Bills printed there from a Pattern he carried home last Year; that when he came here, he admitted one *Watt* into the Secret, and gave him a Number of the Bills to pass and exchange in *Pennsylvania*, while he went into the Jersies on the same Account, altering his Name to *Thomson* lest a wife he had married at New-Garden should hear of him; and that they were to meet next Christmass at *Philadelphia*, and divide the Profits: That *Watt* had communicated the Thing to him, and given him Twenty-seven Bills to pass, of which he was to have a Share for himself; telling him to persuade him to it, that it was no Sin, for it would make Money plentier among poor People. He said he had as yet passed but one, of which the Change 19s. was found in his Pocket. He could not tell where *Grindel* might be at this Time in the Jersies, but he inform'd that *Watt* was at Eastown in Chester County. Officers were immediately dispatch'd in quest of him, who rid all Night, surpriz'd him in Bed about Day-break, and guarded him to Town. After Examination he was committed to Prison, to keep company with his Friend the Pork-seller, who it seems has brought his Hogs to a fine Market. Tis hoped that by Christmass we shall see *Grindal* here also, that he may (according to Agreement) share the Profits with 'em. The Bills they have attempted to counterfeit are of the last Impression; the Counterfeits might

pass with many People who do not take much Notice, but they have imitated the Paper very ill, that of the new Bills being thick and stiff, and the Counterfeits soft and flimsy. What is most surprizing is, that the Counterfeiters, with all their care and exactness, have entirely omitted numbering their Bills, at least none of those are number'd which are seiz'd. Was this Infatuation, or were they afraid they should not number them right?

A subsequent development of the affair is found in the same newspaper of January 11, 1753, which states: "Yesterday, being Market Day, Watt who was concern'd in the Counterfeit Money, as mentioned in one of our late Papers, receiv'd part of his Punishment, being whipt, pilloried and cropt. He behaved so as to touch the Compassion of the Mob, and they did not fling at him (as was expected) neither Snow-balls nor any Thing else; We hear that Grindal, the Importer of the Bills, and chief Person concern'd, was taken in the Jersies, but afterwards made his Escape. In his Pocket-Book was found the Account of Charge, so much to the Printer, so much for engraving the Plates, so much for Paper, &c."

There is no reference to the "Pork-seller," so it may be assumed that he turned King's Evidence in the trial of Joseph Watt. Watt, however, after standing in the pillory and having his ears cropped, was confined in the Philadelphia jail, from which he broke out and escaped on the night of June 13, 1733. He was described in an advertisement as "about Forty Years of Age, with long, strait brown Hair, and has a Scar in his Throat where he attempted to cut it." Anyone who might take him or who could give intelligence of him was requested to notify the sheriff.⁶

At the Court of Quarter Sessions for Lancaster County held at Lancaster on May 1, 1733, three men were indicted for passing false coin in the likeness of silver money current in Pennsylvania. Two of them may have been brothers or relatives, for they were named Robert and James Black. Robert was charged with uttering four counterfeit dollars, pleaded not guilty, but was tried and convicted.

⁶ *The Pennsylvania Gazette*, June 14, 1733, p. 2.

He was sentenced to be whipped twenty lashes at the common whipping post, to stand in the pillory one hour and there have both ears cut off, and to pay the costs of prosecution. James Black was presented for passing two false "Lyon Dollars." He pleaded not guilty, and the jury found him not guilty "in manner and form as by the said Indictm^t is supposed." The third suspected counterfeiter was Cornelius Walraven, charged with passing seven false dollars. He was convicted and received the same sentence as Robert Black, save that he was to be given thirty-one (instead of twenty) lashes, perhaps because he had passed more dollars than Black had.⁷

On August 5, 1734, A. Hamilton prepared an advertisement which was published three days later in *The Pennsylvania Gazette*. Its text was as follows: "There being lately discovered a counterfeit Twenty Shilling Bill, of the likeness of the Bills of Credit of the Province of Pennsylvania of the same Denomination, Dated the Tenth Day of April, 1731. All Persons are desired to be careful lest they be imposed upon by the said false Bills. They are to be known only by the Difference in the Signers Names, the Paper of the false Bills is thinner, and the Ink with which they are printed, is paler than in the true Bills."

It appears that some confederates were engaged in passing not only Pennsylvania but also New Castle bills. On November 20 several counterfeit twenty shilling New Castle bills were discovered which had been passed at the fair. Some persons recalled the man who had paid out the money to them, and the utterer was at once pursued and arrested at Chester. He was brought to Philadelphia, where he was examined, made an ample confession and discovered his associates. It was reported that £5,000 of the false paper money had been imported. The most obvious marks for detecting the counterfeits were the following: in the false bills the word "Indented" in the first line stood too high in the line; towards the bottom the words "of this" were placed too close together, thus "ofthis," and all the lines were more uneven than in the true bills.⁸

⁷ Lancaster County Road Docket 1, 1729 to 1742, pp. 70-72.

⁸ *The Pennsylvania Gazette*, Nov. 21, 1734, p. 3.

On November 28 an item appeared in the press to the effect that, since the apprehension of the passer of forged New Castle money, two more persons, the importer and the signer, concerned in the affair had been seized in New Jersey and imprisoned in New Castle. It was said that the greatest part of the bills brought over were found with them.⁹ A week later, however, a correction was printed in *The Pennsylvania Gazette*, which informed its readers that the two men taken in New Jersey were not in jail in New Castle but in Salem, New Jersey, where they had been admitted to bail, and that their names were Conway and Sherwin. Their false bills, New Castle twenty shilling and ten shilling notes, and Pennsylvania twenty shilling and fifteen shilling bills, were found hidden on an island in the middle of a great marsh. Although these men had, according to report, passed almost seven hundred pounds of counterfeits, it was claimed that but few of the Pennsylvania bills had been uttered. The false ten shilling New Castle notes could, in general, be recognized by the paleness of the print and by the fact that in the TEN SHILLINGS in the body of the bill the first S of SHILLINGS stood much too low in the line, thus _SHILLINGS. The forged twenty shilling Pennsylvania bills could be known by the fact that the G in the word SHILLINGS at the top of the bill was too high for the rest of the letters, thus TWENTY SHILLIN^GS.

On January 9, 1735, the public was informed by the same newspaper that, since the publication of the above notice concerning forged twenty and ten shilling bills, also one or two fifteen shilling bills of New Castle currency, which were counterfeit and which seemed to be done with a plate, had been passed. They were supposed to belong to a new parcel and the marks by which they might be known were the following: "In the second Line in the Words (Fifteen Shillings) the Capital F at the Beginning of *Fifteen* is much shorter and less than the S at the beginning of *Shillings*, but in the true Bills they are of equal Heighth: And in the fifth Line, in the Words (New-Castle, Kent,) the C and K beginning (Castle) and (Kent) are much

⁹ *Ibid.*, Nov. 28, 1734, p. 4.

too big in Proportion to the (N) at the beginning of (New) and the small Letters in all the Words mentioned stand at too great a Distance from another thus,

Fifteen Shillings, New-Castle, Kent,

the whole is done with Ink much paler than that of the true Bills."

It has been incorrectly stated that the men responsible for the false Pennsylvania and Newcastle bills, Conway and Sherwin, were "let out on bail and finally escaped."¹⁰ Such was not, however, the case, for *The Pennsylvania Gazette* of February 25, 1735, carried this item: "We hear from New-Castle, that Conway and Sherwin, the two Counterfeiters of Bills, were tryed last Week; the former pleaded guilty, and the latter was found guilty; and both received Sentence according to Law." The same newspaper on March 27, 1735, noted the infliction of the penalty in these words: "We hear from New-Castle, that on Thursday last, the 2 Counterfeiters of Paper Money, who have been some time under Sentence in the Goal there, suffered the Punishment of Whipping, Pillory, and Loss of Ears, according to Law. They are also fined an Hundred Pounds, and to pay double the Value of the Damage occasioned by the Counterfeit Bills."

On September 15, Israel Pemberton, Thomas Leech and Joseph Harvey, three of the trustees of the Loan Office, reported that pursuant to an order of the Assembly of March 19, 1735, they had burnt and destroyed the counterfeit bills, amounting in the whole to £1668/15/—, which had all been imported from Ireland by Robert Conway and his associates. The false money consisted of 987 bills of 20 shillings, not signed, and 37 of the same which were signed; 853 false bills of 15 shillings, not signed, all these in imitation of Pennsylvania money; finally 5 counterfeit 20 shilling bills in imitation of New Castle currency.¹¹

At this time, as indeed throughout the Colonial Period, bills of credit were being counterfeited in Europe, and especially in Ireland,

¹⁰ Gillingham, *Counterfeiting in Colonial Pennsylvania*, p. 14.

¹¹ *Pennsylvania Archives*, I Series, I, p. 458.

and were then being imported into the provinces in North America. A dispatch from New York dated May 3, 1736, was printed three days later in *The American Weekly Mercury* to the effect that a few days before an Irishman had been seen in New York with a quantity of New Castle bills of the denominations of eighteen pence and of twenty shillings. These were quite new and the signers' hands were rather well imitated but the engraving part differed from that on the true bills of the same denominations.

Somewhat more than a year later another Irish counterfeiter was described by the same newspaper of June 16, 1737. The account read:

On the 12th Instant was apprehended here (in Philadelphia), an Irishman, who was just come to this City from *New-England*, where he says he arrived from *Ireland* in *August* last. and there were found upon him Eight counterfeit Bills, made in Imitation of the *Five Shilling* Bills of Credit of the Province of *Pennsylvania*, printed in the Year 1729, and Signed with the Names of *John Parry*, *Abraham Chapman*, *Edward Horne*, and *Thomas Tresse*, or by Three of them: The Counterfeits are to be distinguished by those Marks, viz.

The Words *Five* SHILLINGS on the Top, are printed in a larger and bolder Character. The F, in the Word *Five* on the Top, stands over the I in the Word THIS below it. (In the true Bills it stands over the H of the same Word.)

The Capital S in PENNSYLVANIA is shorter than the Letters that stand next to it. The Italic Capital *r*, in the Word *rear*, is curl'd like this *r* (In the true Bills 'tis plain like this *Y* but smaller.)

The Signers Names are very ill done.

Whoever will Discover the Person or Persons who Counterfeited the said Bills, or the Signers Names to the said Bills; or the Person or Persons who Imported the said counterfeit Bills from *Ireland*, where it is supposed they were Printed, so that the Offenders may be apprehended and convicted, shall have a Reward of *Fifty Pounds*, Current Money of *Pennsylvania*.

A. HAMILTON.¹²

¹² The same item is found in *The Pennsylvania Gazette*, June 16, 1737, p. 3.

From the Minutes of the Provincial Council it is revealed that the Irishman was William Neal and that in his examination in Philadelphia he declared that he had received the false bills from one Benjamin Ellard of New London in Connecticut. The Pennsylvania authorities applied to the magistrates in New London, who arrested and questioned Ellard. He "frankly and without hesitation" admitted that he paid out the bills as genuine to Neal and also affirmed that he had, in the presence of a certain Thomas Davis, received the bills from one Rowland Houghton, a merchant of Boston. The depositions of both Ellard and Davis were sent to Philadelphia, and the magistrates of New London expressed the opinion that Ellard was entirely innocent of the fraud, adding "that this Houghton is the same person who made the plates by which a late paper Currency at Boston was struck." Upon consideration of these documents the council dispatched, on July 14, 1737, a letter addressed to Governor Jonathan Belcher of Massachusetts, to whom the council wrote that it was applying "in a Matter that not only nearly concerns this Government, but in its Consequences may affect others on the Continent with whom we have any Dealings or Intercourse." The letter told of the arrest of Neal and of the information secured from New London about Ellard and his claim that he obtained the bills the previous August from Rowland Houghton. "We therefore," continued the letter, "request that you will be pleased to cause Houghton to be examined touching the Bills by him delivered to Ellard, one of which, with a genuine Bill for Distinction, we likewise send inclosed; & that you will direct a very strict Enquiry to be made, in Order, if possible, to discover the source of this Villany, & to prevent the further ill Effects of so pernicious an Attempt, whereby you will lay a very great Obligation on this Province in general, and on us in particular" ¹³

Governor Belcher sent a reply which was laid before the Provincial Council of Pennsylvania on August 26. He enclosed a declaration of Houghton, substantiated by declarations of John Seton and Ben-

¹³ *Colonial Records*, IV, pp. 225-226.

jamin Bagnal. It appeared that Houghton was innocent, for he had purchased the bills in question as genuine from "one Susannah Buckler, a Person who had been guilty of several gross Impositions on the People of New England, but is since gone to Britain." With this the Council dropped the matter in the conviction that it could not be further traced.¹⁴

Presumably Neal was released on the basis of the results of the Council's investigation. Gillingham¹⁵ has suggested that Neal is the person mentioned in the following notice, dated May 4, which appeared in *The Pennsylvania Gazette* of May 11, 1738:

Whereas Information hath been given to the Trustees of the General Loan Office, of the Province of Pennsylvania; That a considerable Number of Counterfeit Bills, made in Imitation of the Bills of Credit of the said Province of the Denomination of Five Shillings, dated in the Year 1729, and Signed ABRAHAM CHAPMAN, JOHN PARRY and EDWARD HORNE; have been uttered and past as genuine and true Bills, as well in the Province of New-Jersey as in this Province; and being further inform'd that an Irish Man, pretending to be a Pedlar, hath uttered several of the said Bills about Crosswicks in Burlington County, in Payment for Buckskins and other Things: These are to request all Magistrates and others His Majesty's liege Subjects, to be aiding and assisting in the apprehending the Person or Persons who have uttered the said Counterfeit Bills.

The notice closed with the offer of a reward of ten pounds and costs and charges to the person who should arrest the offender or offenders and was signed by Jer. Langhorne and A. Hamilton. Possibly the culprit was Neal but there is no evidence of this, and Neal was not, unhappily, the only counterfeiter then at large.

Early in 1739 the Pennsylvania authorities were alarmed by the menace of counterfeit bills, and January 2 Governor Thomas declared in a speech to the Council: "Few things require more the Attention of a Government than the Money current in it; for upon the real value of that depends all confidence in Trade, Forreign and Domestick.

¹⁴ *Ibid.*, IV, pp. 241-242.

¹⁵ *Op. cit.*, p. 15.

Yours has been so frequently counterfeited of late, that there is reason to apprehend the Security of your Laws has given encouragement to it. I am not in Inclination for sanguinary Laws, but it has been the Policy of all well-constituted Governments to proportion the Punishment to the Crime."¹⁶ To this the Assembly made the following comment: "Having now under Consideration among other things relating to our Paper Money, the Reprinting our Bills of Credit, we shall endeavour to make such Provision against their being counterfeited as shall appear to be most likely to secure us against Practices of that kind for the future."¹⁷

The assembly was as good as its word. Heretofore the counterfeiting or passing of bills of credit of the province had been punishable by the pillory, the lash, cropping, and fines. Now, on May 19, 1739, an act was passed for reprinting, exchanging, and re-emitting all the bills of credit of the province and for striking £11,110 and five shillings, to be emitted upon loan. In this law it was provided:

...if any Person or Persons shall presume to counterfeit any of the said Bills of Credit, made current by this Act, or any Law of this Province, by printing or procuring the same to be printed or otherwise counterfeited in the Likeness of the said genuine Bills of Credit; and also if any Person or Persons shall forge the Name or Names of the Signers of the true Bills of Credit, to such Counterfeit Bills, whether the counterfeiting of the said Bills or Names be done within this Province or elsewhere, or shall utter such Bills, knowing them to be counterfeited as aforesaid, and being thereof legally convicted, by Confession, standing mute, or by the Verdict of Twelve Men, in any Court of Record within this Province, he, she or they shall suffer Death without Benefit of the Clergy: And the Discoverer or Informer shall have, as an Incouragement for his Discovery, the Sum of *Fifty Pounds*, out of the Goods and Chattels, Lands and Tenements of the Person convicted, and if no such Goods and Chattels can be found, then the Trustees of the General Loan Office shall pay to such Informer or Discoverer, his Executors, Administrators or Assigns, the Sum of *Ten*

¹⁶ *Colonial Records*, IV, p. 315: Minutes of the Provincial Council for Jan. 2, 1739.

¹⁷ *Ibid.*, IV, p. 316.

Pounds. And if any Person or Persons, shall counterfeit any of the said Bills of Credit of this Province by altering the Denomination of the said Bills, with Design to increase the Value of such Bills, or shall utter such Bills, knowing them to be counterfeited or altered as aforesaid, and shall thereof be legally convicted, in any Court of Record of this Province, such Person or Persons shall be sentenced to the Pillory, and to have both his or her Ears cut off and nailed to the Pillory, and to be publickly whipt on his or her bare Back, with *Thirty-one* Lashes well laid on: And moreover, every such Offender shall forfeit the Sum of *One Hundred Pounds* lawful Money of *Pennsylvania*, to be levied on his and her Lands and Tenements, Goods and Chattels, the one half to the Use of the Governor, and the other half to the Discoverer: and the Offender shall pay to the Party grieved double the Value of the Damages thereby sustained, together with the Costs and Charges of Prosecution. And in Case the Offender hath not sufficient to Satisfy the Discoverer for his or her Damages and Charges, and pay the Forfeiture aforesaid, in such Case the Offender shall, by Order of the Court where he or she was convicted, be sold, for any Term not exceeding Seven Years, for Satisfaction: and in such Case the said Trustees shall reward the Discoverer of such insolvent Offender, to the Value of *Five Pounds*. And every such Counterfeit Bill shall be delivered to any of the said Trustees, to be made Use of upon the Tryal of the Person accused or suspected, and afterwards to be burnt or destroyed by the said Trustees, in the Presence of a Committee of Assembly.¹⁸

The immediate cause of this drastic legislation against counterfeiting or altering the bills of credit was doubtless the case of one William Bodie, which is referred to in these terms in the Minutes of the Provincial Council at a meeting held on January 18, 1738:

The President (James Logan) acquainted the Board that this morning he received a letter from Mr. Hamilton, one of the Trustees of the General Loan Office of this Province, giving an Account that a Discovery had been made of some of the Bills counterfeited in imitation of the Bills of Credit of this Government, a parcel of which counterfeits unsigned the President

¹⁸ *The Charters and Acts of Assembly of the Province of Pennsylvania* (Philadelphia: Peter Miller, 1762) I, pp. 153-154; James T. Mitchell and Henry Flanders, *The Statutes at Large of Pennsylvania 1682 to 1801*, IV, pp. 358-359.

laid before the Board, & informed them that one Robert Savory had voluntarily made this Discovery, who being acquainted at London with one William Bodie, a Person of a dishonest Character, who had lived in Bucks County, in this Province, was by his means made privy to the Design, that Savory was now attending, in order to declare his knowledge of the whole before the Board, & he being called in & examined, gave a Narrative of the Matter, which the Board judging proper to be taken on Oath, & that he should be more particularly examined touching other Circumstances, Mess^{rs} Plumstead & Laurence are appointed a Committee for that Purpose, & to report the said Examination to the Board at their next meeting; And the Board being also of Opinion that a diligent Enquiry should be forthwith made for Bodie, who, if returned from Britain, may probably be found near the Place of his former Residence, It is Ordered that a proper Person be dispatched by the President into the County of Bucks for this End.¹⁹

At a meeting of the Provincial Council on February 3, 1738, which was presided over by James Logan and attended by Samuel Preston, Anthony Palmer, Clement Plumsted, Thomas Laurence, Ralph Assheton, Samuel Hasell and Thomas Griffitts, the examination of Robert Savory was read as follows:

The Examination of Robert Savory, of Bednall Green Gardner, married, aged about forty years, taken before Clement Plumsted and Thomas Laurence, Esqrs., two of the Members of the Council for the Province of Pennsylvania, & Justices of the Peace for the City & County of Philadelphia.

The Examinant saith, that for some years he served William Franklyn, of Bednall Green, Brewer, whose Son William, returning from America, brought the Examinant acquainted, about September, one thousand seven hundred & thirty-six, with one William Bodie, who had come Passenger from Boston in the same Ship with the said William Franklyn, the younger; that the Examinant & the said Bodie becoming intimate, & often meeting together at one John Parker's, who keeps a publick House in Spittlefields, Bodie told the Examinant that he, said Bodie, had lived in Pennsylvania, in America, where there were Paper Bills current, equal almost to Sterling

¹⁹ *Colonial Records*, IV, p. 273.

money; that he had received Orders from the Proprietors of Pennsylvania to gett some Paper Money Bills printed in London, & shewed the Examinant two he had brought for Patterns, the one being a half Crown Bill of Pennsylvania Currency, & the other a Crown Bill of the Counties on Delaware, on which last there was an Escutcheon, bearing the British Arms, with the Word Delaware. That the said John Parker desired the Examinant to assist the said Bodie in showing him the Town, to witt, London, & where he might find proper Persons to cutt the Plates, and to print the Bills alike to those which he had brought over; that accordingly this Examinant went to several Places with the said Bodie, particularly to one William Pennock, a Wood Cutter, in Jewin Street, near Aldersgate Street, who undertook to cutt wooden Dyes for the half Crown Bills; and then they went to one [blank] Halfhide, an Engraver, in the Minories, who undertook to cutt a Plate for the Crown Bills; That the Examinant & Bodie becoming more closely intimate, discoursing freely together, Bodie told the Examinant about Christmas, One thousand seven hundred & thirty-six, that the Bills which were to be printed off were not for the Proprietors of Pennsylvania, as he, the said Bodie, had given out, but were truly for himself and his own private benefit; that if they could be printed off exactly alike with those he had brought over, which were Current in Pennsylvania, he could easily gett the Names signed by some in New England who could do them extraordinary well, and thus the Bills would be equal to so much Money, & offered to the Examinant to lett him in for a share of the advantage, as he had been at some Trouble in assisting him, the said Bodie; The Examinant acknowledges that this Prospect of Gain, without considering the Hazard that attended it, induced him to become serviceable and assisting to the said Bodie, who having afterwards got the wooden Dyes from Pennock, a Number of half Crown Bills were printed off by a Printer in Aldersgate street, whose name the Examinant does not remember, to the value of Seven hundred pounds, as Bodie told the Examinant, but Halfhide, the engraver, refusing to lett Bodie have the Plate for the Crown Bills, unless he would give Security to keep the said Halfhide harmless, in case any undue Use should be made of it, no Crown Bills were printed off, as far as this Examinant knows; That the Examinant & Bodie sett out from London for Bristol with the Bills aforesaid, in order to take Shipping from thence for Pennsylvania; when the Deponent beginning to consider the Affair he was going about, grew uneasy in the

Mind, and revealed the whole matter to one Joseph Allen, a person employed in the Service of the East India Company, who was then at Bristol, & with whom the Examinant was acquainted, whereupon, the said Allen diswaded the Examinant from prosecuting the design, representing it as highly dangerous, & what might possibly bring the Examinant to a Rope. The Examinant, upon this Advice from his Friend, determined to have nothing further to do with Bodie; but the Examinant having thrown himself out of Business, & sold off great Part of what he had in the World, was ashamed to return to the place of his former Habitation, & therefore determined to come into America & seek his Living there; that upon imparting this Resolution of his to Bodie, he appeared much surprized & alarmed, & used Endeavours with the Exam^t to confirm him in the Prosecution of their first Design; but the Examinant being sensible of the Danger, persist'd in the Resolution of leaving Bodie, who then pressed the Examinant to take a Share of the Bills, which the Exam^t refused, saying they could be of no Service to him; but Bodie's telling the Examinant they would pay his Passage, gave him a Bundle of them in a Handkerchief, which the Examinant took, not intending to make any other Use of them than to discover Bodie's Design, who had by means of it brought the Examinant into great Trouble and Sorrow; That Bodie told the Examinant if he came to America he might hear of him, the said Bodie, near to Dobb's ferry, about thirty Miles from New York, at one Houston's, whose Daughter the said Bodie had Married. And the Examinant further saith, that leaving the said Bodie at Bristol, the Examinant took a Passage on board the Billinder Hawkins, John Cole, Master, for South Carolina, & arriving in Charlestown the Examinant was soon taken ill, & being attended in his Sickness by one Doctor Killpatrick of Charlestown aforesaid, the Examinant acquainted him with the whole Affair as above narrated, & showed some of the Bills to him, giving him one of them & desiring he would send it to Pennsylvania, which the said Doctor Killpatrick promised he would; That the Examinant recovering from his Indisposition, resolved to travel to Pennsylvania in order to make a Discovery of the whole Affair as far as he knew of it; and having left his Chest, wherein several of the said unsigned Bills are, in the Custody of one Thomas Lamson, a Tavern keeper in Charlestown, the Examinant brought a parcell of them hither, which he hath delivered up to Andrew Hamilton, Esq^t, one of the Trustees of the General Loan Office of Pennsylvania, and declares that he hath faithfully

kept all the Bills which he received from the said Bodie, without giving away or passing any one of them, except that to Doctor Killpatrick afore-said; And that the Narrative above given of the Examinant's Knowledge and of his Proceedings, is just and true in every particular.

Taken at Philadelphia the 16th day of January, 1737-8, on the Oath of the said Robert Savory, Before us,

CLEM. PLUMSTED,
THO. LAURENCE.²⁰

The Minutes of this session of the Council continue with the following lines about the same affair:

The Board were likewise informed, that the Express dispatched into Bucks County to enquire about William Bodie, being returned, brought an Account that he was not to be found, but that Mr. Langhorne had undertaken to use all possible Endeavours for discovering & apprehending him. Upon considering the whole of this matter, the Board are of Opinion that a Copy of the foregoing Examination should be sent by the first Opportunity to the Governor or Commander-in-Chief, for the time being, of the Province of South Carolina, & that he should be requested to order Savory's Chest to be carefully searched, & the counterfeited Bills to be secured & transmitted hither, and to cause Lamson, in whose Custody the said Chest was left, to be examined touching his Knowledge of the said Savory and of the counterfeited Bills; & further, that an Enquiry should be made of Doctor Killpatrick touching the truth of the Circumstance wherein that Gentleman's Name is mentioned by Savory, that it may be known how far the Discovery made by him is true & genuine in its several Parts. And It is recommended to the President to write to the said Governor or Commander-in-Chief accordingly.²¹

During the year 1738 three other persons were charged with counterfeiting. Of these John Herd was indicted at the Court of Quarter Sessions of Lancaster County, held on May 2, for passing to one James Burk a piece of brass as a true piece of gold, of the value of seven shillings and sixpence lawful money of Pennsylvania. Herd pleaded not guilty, was tried and acquitted.²²

²⁰ *Ibid.*, IV, pp. 274-276.

²¹ *Ibid.*, IV, p. 276.

²² Lancaster County Road Docket 1, 1729 to 1742, p. 225.

Later, on October 30, the Grand Jury of the County of Philadelphia indicted Thomas Carr, a laborer of Philadelphia, for having uttered, knowing it to be false, a counterfeit ten shilling bill of New Castle, Kent and Sussex, to which presentment Carr pleaded not guilty.²³

Three days later *The Pennsylvania Gazette* carried an account of the apprehension of another passer of false bills of the Lower Counties on Delaware. It read:

One *Whitesides*, who lately came from Ireland in Capt. Grieves, is apprehended and imprisoned at New-Castle, for uttering Counterfeit *Twenty Shilling* Bills of that Government. 1029 of the Bills were found in his Custody. And as it is not known what Quantity may have been dispers'd, we think proper to give our Readers such Marks to distinguish by, as may secure them from being impos'd on, viz.

In the Counterfeit Bills the Words, and Sussex, stand thus, (and *Suffes*), Sussex being considerably lower than *and*. In the true Bills those words stand pretty even upon a Line.

In the Counterfeits, in the Word *Payments*, the *n* seems to lean backwards, thus *n*, in the true ones it leans forwards.

In the Counterfeits, in the last two Lines, the *f* of the Word (of) stands right over the (n) in the Word (upon) thus, (upon^{of}) In the true Bills the same *f* stands right over the (o) of the same Word (upon) thus (upon^{of})

There is in both the True and Counterfeit Bills a Row of 10 Flour-de-luces, among the Signers Names; in the Counterfeit Bills they all stand even on a Line. In the true Bills, the 6th and 9th stand a little below the rest, thus, ♦♦♦♦♦♦♦♦♦♦ - - - - The Bills are dated 1734.

Although the court records for this period have not survived and the newspapers shed no further light on the case, it is stated in the minutes of the House of Assembly of the Three Lower Counties that Whitesides was convicted. His fine was £100, and on April 19, 1739, a lively debate arose in the house concerning the disposition of half of this sum. A law had been passed to grant one half of the fine to the informer and the other half to the government, and the question now was whether the governor was to obtain £50 of the fine imposed on

²³ Court Papers (In The Historical Society of Pennsylvania), Indictments, Oct. 30, 1738.

Whitesides. After the opinions of the attorneys general of Pennsylvania and the Three Lower Counties had been presented, the assembly voted that the sum belonged to the people and not to the governor. It was revealed that the law required that any person convicted of forging the bills of credit of the counties should be set in the pillory and fined £100, so it may be assumed that Whitesides also stood in the pillory, probably for the space of one hour.²⁴

²⁴ *Minutes of the House of Assembly of New Castle, Kent and Sussex held at New Castle 1739* (The Public Archives Commission of Delaware, 1929), pp. 30, 32, 35, 37.

IV

THE JENKINS AFFAIR

At the close of 1739 a plan was put into effect to secure counterfeits in England of various Colonial bills. On Saturday, December 22, one Robert Jenkins of Salem, New Jersey, approached Abraham Ilive, who dwelt in Bird Cage Alley near St. George's Church, Southwarke, and was a printer at Mr. Reyner's Printing House. Jenkins, who said he belonged to a small vessel, had been directed by a cousin, Peter Long of Philadelphia, to go to some printer in London.¹

It seems that Long, some two or three years before, had brought to England some Colonial paper money, had had counterfeits of it made to the amount of £6,000, and after his return to America had passed off most of them in New Jersey and neighboring provinces.² About October, 1739, he wrote to his cousin, Jenkins, in England, desiring him to deliver to some printer the following letter of instructions telling him how to execute his scheme and make the counterfeits exact.³ The letter read:

Mr. Printer, to whose Hands this comes. In the first, Place just such Paper; Secondly, just such Ink, & 3^d, just such Letters, & every Spot & Tittle to be minded, or else it is of no Value, & if I have any Luck with it as I expect & hope I shall, You shall have a second Reward worth having. If the Letters of every Word is not alike & at the end of some Words a Spot as at this. and when You have begun, compare them together, and if they be not alike, make an Alteration in Your Stamp to every thing as you can see in the Pattern, & at the End of every One You will see a Word, & the Sum of the Bill, in this Manner, VI S, & so to all the rest, in proper Acco^t of Value, but You must count every Flourish at the Beginning & the Rest will follow.

¹ *Pennsylvania Archives*, I Ser., I, p. 587.

² *Ibid.*, I Ser., I, p. 587 and *New Jersey Archives*, I Ser., XV, p. 119-120.

³ *Pennsylvania Archives*, I Ser., I, p. 588.

One thousand of the 20 Shillings,
And twelve hundred of Each of the Other.⁴

Along with these instructions Jenkins delivered to Ilive five bills, a twenty shilling bill of New Castle, Kent and Sussex and four bills of New Jersey, one for fifteen shillings, one for twelve, one for six and one for three, "printed in red & black Colours & signed by Persons who appear Authorized so to do."⁵

Long had written to Jenkins to settle terms with some honest printer in order that "they themselves need not come backwards and forwards to England upon every Occasion, but might send him, from time to time, (in the Wading of a Sadle) any new Bills they would have counterfeited, & that the Printer might return a large Impression of Counterfeits, stufft in the Wadding of the same Sadle." He added that he should very soon get some bills of the new emission of Pennsylvania and should want a great number of them.⁶

What then transpired is set forth in a statement made on December 28, 1739, to Secretary Andrew Stone and S. Buckley. It reads in part:

[Jenkins] . . . shewed him 5 money Bills of y^e Currency of New Castle, Kent & Sussex, & New Jersey & told the s^d Ilive then & at sev^l meetings since that if he would print s^d Bills he wo^d give him 5 Guineas & wo^d send him a farther Gratuity on his arrival in New Eng^d & that if s^d Ilive would be secret he sh^d employ him hereafter by sending him over fresh Bills if any sh^d be printed when he got back. that s^d Bills sh^d be convey^d in y^e pad of a Sadle to prevent discovery, & that s^d Ilive sh^d convey them to him in y^e same manner & that they must be printed exact with y^e patterns for w^{ch} he gave written Instructions now in M^r Secretary Stones hands, otherwise they wo^d be of no value, Ilive told him that some of y^e Characters were out of use & hard to be Matchd, he assur^d that abo^t 2 years & half ago a Cousin of his carried to New Eng^d Six thousand pounds of that Money w^{ch} he had got printed in Londⁿ & had actually assisted him in putting off

⁴ *Ibid.*, I Ser., I, pp. 579–580.

⁵ *Ibid.*, I Ser., I, pp. 579, 587. Ilive said that the twenty shilling bill was of New England but it was really of New Castle, Kent and Sussex.

⁶ *Ibid.*, I Ser., I, p. 588.

for current money, to y^e value of One thous^d Pounds in Twenty Shill Bills, And in order to make them look like Original Bills w^{ch} were foul with handing about in Trade, he put them in a bag with six pounds of Shott, & rode wth them thirteen miles by w^{ch} they were worn & soiled as though they had been in Trade ever since their date, Ilive asked how we wo^d get the hands of the Signors, He answered they wo^d do it for a quarter value or if they would not, it was only getting one of the real Bills & he wo^d sign their hands for them, for my Cousin says he did so & paid his all away & I can do y^e same because I trade to New Jersey, Connecticut & c^a in a Shallop of my own, he added that if any Imposition sh^d be discov^d its probable the Bills will be called in & fresh del^d out, If this sh^d happen I will send you over one of the fresh Bills with Goods Sufficient to bear y^e Expen^ce & reward you handsomely besides...⁷

The printer was apparently interested and consented to undertake the work but by the time a week had passed he seems to have gotten cold feet. His subsequent move is told in a letter composed in London on March 10, 1740, by the Pennsylvania Agent, Frederick John Paris, and sent to Governor George Thomas of Pennsylvania. Paris wrote:

And Ilive, the Printer, was promist mighty Rewards, if he woud be faithful to his Trust, & carry on this Affair from time to time.

I doubt Ilive himself is but half honest, he was rather fearful of coming into Trouble, & desirous of getting some Reward, than merely of discovering such a Base Design out of a true hatred to it.

But, however that was, about the 27th & 28th of Dec^r last, Ilive carryed the Papers, & made an Informⁿ to the Under Secretarys of State, Therein (by Mistake) calling the Bills *New England* & New Jersey Bills.

The Under Secy^s of State sent for the New England & New Jersey Agents, not knowing (as they say) where New Castle, Kent, & Sussex were.

The New England Agent, being very ill & confined to his Chamber, he cou'd not go to the Secy^s for three Weeks or more, to set them right, & so it was several Days before I knew any thing of it.

Immediately on Notice, I attended the Secy of State, & having some Intst, I got the very Orig^l Informⁿ made to them, & imediately advised

⁷ Pemberton Papers (in the Historical Society of Pennsylvania), III, p. 30.

with Council (amongst Others with the Sol^r Gen^l) what Offence this was here, & how far this Jenkins cou'd here be punisht for it.

Upon great Consideration, they all agreed that it wou'd not be punishable here, & advised, by all means, to let the Printer go on & furnish Jenkins (who did not know he was betrayed) with what he wanted, & to take Care to have some private Marks to know the Counterfeits by, & to send Notice in Order to seize Jenkins & Long & the Cargo of Counterfeit Bills together, in America, where Your Laws may reach him, for fear, if Ilive refused him, he sho^d go to some Other who might carry it on unknown to Us.

Accordingly, by the Sol^r Gen^{ls} Directions, we let Ilive go on & make the Bills for Jenkins, & Jenkins is now going over to yo^r Province, or to some Neighbouring Province, with a Cargo of the Counterfeits.

But its impossible for me yet, to fix what Ship he intends to go by, as there are very many Ships w^{ch} have been a long time ready to depart, had it not been for the Embargo, the Press, & the very severe Frost, whereby some have been stopt for 5 Months past.

The long stay w^{ch} this Jenkins has been forced to make here, has made him spend all his (good) Mony, & I believe he has not been able to pay the Printer what he promist him down, besides the mighty Rewards he was to expect in future.

This has made Ilive, the Printer, expect not only the Reward I promist him for his Discovery, but also what Jenkins was to have paid him.

I now enclose you One of the Counterfeit Bills, and the two Org^l Informations, & an Orig^l Letter from Jenkins to Ilive.

These Counterfeit Bills differ from the true in five particular Instances.

1, 2, 3. Upon the fore Shoulder of the Lyon and of the Unicorn, & at the foot of the Flying Horse in the King's Arms, there is a Speck or Dot in the Counterfeit, but not in the true.

4. The Letter I. in (This Indented) is not like the I. there, in the true Bill.

5. And part of the Letter P. in (Payments) is below the Line in the Counterfeits, whereas it comes no lower than the Line in the true Bill.

This Discovery alone will enable you, by Proclamation, to advertise the Publick, & prevent the Circulating these Counterfeits; but my aim is, that by prudent Managem^t & Secrecy, Jenkins & Long, (after they have been once or twice together) & have added the suppos'd Names of the Signers,

may be detected & punished, as their high and injurious Offence deserves, and to deterr Others.

For otherwise, You may have the whole Currency of yo^r Province & Countys counterfeited.

If I can, before the Ships go, get any further Lights by Ilive, you may expect an Acco^t thereof, in a subsequent Letter.

And by Application to the Gov^r of New Jersey, Each Province may be able to save the Other, & help to bring these Men to Justice.

I wish I had been the only Person to whom the Secret had been communicated, I wou^d then have answered for its being kept so, but I fear the other Person to whom it was communicated, has not enough considered the Consequence of keeping the Matter quite private.⁸

Probably the other person of whose discretion Mr. Paris seemed to have doubts was Richard Partridge, who at about the same time as Paris wrote to Philadelphia about the affair. His letter, which contained a detailed account of the business, was addressed to Chief Justice John Kinsey and stated: "When thou hast perus'd this letter & Information on ye other side be pleased to seale it up and direct it to Andrew Johnston of Amboy, New Jersey. thou will see by the Nature of the Affair it will require prudential Steps to be taken with secrecy. . . ."⁹

On January 21, 1740, Jenkins, who hoped that the weather would suffer him to leave for America, wrote to Ilive the following note, which the printer turned over to Secretary Stone on February 1. It read: "I beg You wou^d do these Blanks this Week, if possible You can, that I might not be detained for want of it when the weather permits of my going home: if you please to send me a Line or two when I shall come for it. I have 3 Gallons of Cordial at Your Service, out of my Store, & further, I will give, from under my Hand, to send You a Hogshead of Rum, by the first Ship that comes from that Parts, or deliver to whom You should order, the first Day of my Arrival at Home. Sir, I beg you wou^d not fail of doing it soon, & that Your Goodness & *Charity* will consider the Expenses & Charges I

⁸ *Pennsylvania Archives*, I Ser., I, pp. 588–589.

⁹ Pemberton Papers (in the Historical Society of Pennsylvania), III, p. 30.

have been at about it, that I might not leave it to do when I am going, I shall have little time to do it."¹⁰

Lieutenant Governor Thomas of Pennsylvania wrote to Governor Morris of New Jersey and informed him of Jenkins' activities and of his anticipated arrival in America. Governor Morris laid the matter before the Provincial Council in Burlington on June 9, 1740, and it was ordered that two justices of the peace, Clement Hall of Salem County and James Hinchman of Gloucester County, issue warrants to arrest Jenkins and also to apprehend persons thought to be connected with Jenkins or Long and also to search the houses of such persons.¹¹

Jenkins finally reached New York City in June and his reception is described in a letter written in New York on June 23 by Governor Clarke of New York to Lieutenant Governor Thomas of Pennsylvania. It reads:

Late on last Thursday night Capt^t Gill arrived from London, and the Mayor early next morning, as I had before given directions, sent for him and examined him of his passengers, in order to discover whether Jenkins was on board, but it seems the fellow had entered with him as a Sailor, & served as Cook, by which means he might have escaped, if I had not made myself some further Inquiry. I immediately ordered the Master to secure him on board, with his Chest and what other things he had, and to acquaint the Mayor therewith, who, opening his Chest, found in it a bundle of paper Bills, containing in Number 971, of Twenty Shillings each, which he brought to me, & I sealed them up with my own Seal, and delivered them again to him, to be kept till you send directions; the fellow is likewise in prison, so that I hope every thing has been done to your satisfaction, and the villany prevented from taking effect; none of the Bills are signed; I shall send you inclosed some papers which were found in his Chest. I shall keep him in prison, 'till I hear further from you.¹²

This letter was read before the Provincial Council of Pennsylvania

¹⁰ *Pennsylvania Archives*, I Ser., I, pp. 580–581.

¹¹ *New Jersey Archives*, I Ser., XV, pp. 119–120.

¹² *Pennsylvania Archives*, I Ser., I, pp. 619–620; cf. *The New-York Weekly Journal*, June 23, 1740, p. 3.

on June 26,¹³ and before that date Lieutenant Governor Thomas had apparently communicated with Governor Clarke of New York, who on June 29 wrote to Thomas: "I have the Honor of your letters by the post, as well as that by the person whom you sent for Jenkins. I have given orders for delivering him, and the money which I sealed up and left in the Mayor's hands, as I acquainted you by the last post. No further discovery has been made here that I have been informed of. I fancy charges have accrued. I will let you know it when I do, at present I have no demand for any."¹⁴ The Governor's messenger who brought back Jenkins was Under Sheriff William Biddle.¹⁵

On July 3 Mr. Paris's letter to Lieutenant Governor Thomas and the papers relating to the discovery of the affair were laid before the Provincial Council of Pennsylvania, and Andrew Hamilton, Recorder of Philadelphia, was called in and desired to assist in the examination of Jenkins. Next the sheriff, under orders from the governor, brought Jenkins from jail before the council.¹⁶

The examination has survived and reads as follows:

A Letter being Shown him, directed to Robert Jenkins, at Letten Chainey, Dorset Shire, dated Aug^t 1st, 1739, he acknowledged the Letter belonged to him, & was in his Chest at New York.

A Large Bundle of Paper Bills of Credit, in Imitation of Bills of Credit of the County of N. Castle, Kent & Sussex, upon Delaware, being shown to him and being asked how he came by the Bills, and being told they were found in his Chest, he said he knew nothing of the Bills, if they were found in his Chest, they were there when he bought the s^d Chest, and that if he had sold y^e Chest, he should have sold the Bills with y^e Chest.

¹³ *Colonial Records of Pennsylvania* IV, p. 422.

¹⁴ *Pennsylvania Archives*, I. Ser., I, p. 620.

¹⁵ *Minutes of the House of Assembly of the Three Counties upon Delaware at Sessions held at New Castle in the Years 1740-1742* (Printed for The Public Archives Commission of Delaware, May, 1929), pp. 69-70. On October 31, 1741, the Speaker of the House Thomas Noxon, presented the governor's bill of £20/5 for bringing Jenkins from New York and also a bill from William Biddle, Under Sheriff of Philadelphia County, in the amount of £9/12/7 for bringing Jenkins from New York to New Castle.

¹⁶ *Colonial Records of Pennsylvania*, IV, p. 429.

Being asked if he was present when the Bundle of paper Bills were taken out of his Chest at N. York, Said that he was present, & that they were found in the Till of his Chest, & that a small Board was put against the Till, & a Chissell was Used to force y^e Board.

The s^d Jenkins acknowledges that he had in his Chest a Viol of Black Ink, & a Viol of Red Ink, & being asked when he bought it, Said that the Viols of Ink were in his Chest when he bought the s^d Chest.

Being asked if he carried to England any Rum, Said he carried abt Seven Gallons.

Being asked in Relation to y^e Letter wrote to him about y^e Estate, and who wrote it, Said that the Letter was Contrived by him & another person, in order to keep him from the press, he being prest on board of a Man of War.

It appearing that the s^d Letter was Dated y^e 1st of Aug^t 1739, he was Asked what time he left this Country when he went to England, Said that he went home y^e 1st of Aug^t Last.

Being asked where he lived when at London, Said he Lived in Rosemary Alley.¹⁷

As it appeared to the members of the Provincial Council that Jenkins was guilty of the forgery with which he was charged, he was remanded to jail, to be kept there until the governor should issue a writ for removing him to New Castle for trial there, as the crime had been committed against the laws of that government. It was also ordered that his examination just taken and also the papers which had been transmitted from England should be sent to New Castle to be produced at the time of his trial.¹⁸

The authorities in New Jersey soon undertook to gather evidence. On July 21 Justice Clement Hall of Salem County, New Jersey, took the following examination of William Brick of Piles Grove in Salem County:

This Said Examinant saith that some time since Robert Conaway, of y^e County of Salem, was Convicted for Counterfeiting of money of Countys of New Castell, Kent & Susecks on Delawar. Peter Long and William Pauling was at this Examinants House, and that the Examinant and Peter

¹⁷ *Pennsylvania Archives*, I Ser., I, pp. 620–621.

¹⁸ *Colonial Records of Pennsylvania*, IV, p. 429.

Long was talking about Counterfitt Bills of New Castell, Kent & Susacks on Delawar, as also of New Jersey, and William Pauling told Peter Long he beleaved that no body had Counterfitted any Jersey money. Peter Long maid answer that he beleaved their was Jersey money Counterfited, and took ought of his pocat a large parcell of paper money, and amongst other bills showed a Twelve Shilling Bill of Jersey money, and showed to this Examinant y^e Difference between the trew bills and those Counterfitted, and y^e said Peter Long told this Examinant that he beleaved he had passed some Counterfitt Bills: and farther than this y^e Examinant saith not.¹⁹

On July 29 Justice David Davis took the deposition of Rachel Brick, of Pilesgrove in Salem County, presumably the wife or a sister of William Brick. Her statement reads:

The said Examinant Saith that Some time Since Robert Conoway, of y^e County of Salem, was Convicted for Counterfiting of money of Countys of new Castell, Cent, and Susekes on Delawar. Peter Long and William Paulling was talking about Counterfit money at this Examinants house, and William Paulling said that amongst all the Counterfiting ther was no Jersey money Counterfited, and Peter Long Saith he was mistaken, and told him, y^e s^d William Paulling, that he believed that there was Jersey money Counterfited, and took out of his pocket his pocket Book, and seemed to have a large parsale of money, and showed two or three Jersey Bills, to Show the Difference between the true Bills and Counterfits, and Saith that if y^e truth was known, he y^e said Peter Long, believed that there was Jersey money Counterfited, and believed that he had had some; and, further, this Examinant saith that there was differences in y^e Bills, but what she has forgot, and further she saith not.²⁰

The handwriting of both Jenkins and of Peter Long was sought as evidence, no doubt, for their trial. This is shown by a letter written on August 5 by John Ladd to James Steel. Ladd wrote: "I have endeavored to get the hand writing of y^e paper money Chaps, but have not yet accomplished it. I wrote, on receiving thy first Letter, to Clem^t Hall, who I thought Cou'd be Likely to get Jenkins' writing.

¹⁹ *Pennsylvania Archives*, I Ser., I, p. 622.

²⁰ *Ibid.*, I Ser., I, pp. 621-622.

I would have Gon to Salem myself, but for y^e small pox being at Salem. I have not yet Rec^d an answer from him, but Expect him up to y^e Council. I believe there is no doubt but Long's writing may be had; I did not think proper to Endeavour openly to Get his first, Least it might alarm y^e other's friends, and hinder y^e Getting his hand writing. When I get Long's, I will Imediately send it to thee."²¹

Ilive the printer was apparently rewarded by the government of the Three Lower Counties upon Delaware, for on October 21, 1740, the governor suggested "that it were not amiss that the House would order to be printed in the publick News-papers, Advertisements signifying that a Reward was to be given to the printer in England who discovered the printing of Counterfeit Bills of Credit of this Government lately brought over by Robert Jenkins, that it would be an Encouragement to other Printers to make future Discoverys; and that if the House would order it he would have it put into all the publick News-papers."²²

²¹ *Ibid.*, I Ser., I, p. 623.

²² *Minutes of the House of Assembly of the Three Counties upon Delaware at Sessions held at New Castle in the Years 1740-1742*, p. 13.

4 *

V

THE YEARS 1740-1749

At the Court of Quarter Sessions of Chester County on May 7, 1740, Jacob and Nathan Dawson (very likely brothers) were indicted for forging a New Jersey bill of credit. When they were called, only Nathan appeared. He entered a plea of not guilty and, since his witnesses were not ready, the case was continued until the next session and Nathan was released on bail. He was tried on August 26, 1740, found not guilty and discharged on payment of costs. Jacob, however, did not appear in court, and there is no evidence that he was ever tried.¹

Presumably in May or very early in June, 1742, one Jacob Ebberman of Germantown was arrested for counterfeiting several bills of credit of Pennsylvania, New Castle and New Jersey, by altering the smaller New Jersey bills to a higher denomination, and the two shilling bills of New Castle to twenty shilling bills and then passing them. While Christopher Ottinger, Constable of Springfield Precinct, was taking him to the jail in Philadelphia, Ebberman escaped, and the constable then offered a reward of ten pounds for his capture. The fugitive was described as "a German or Palatine" and a butcher. He was "short of stature, with jet black hair, and a pale look, a very large mouth, and his teeth wide-set in the fore part." When he made his escape, he was wearing a linen jacket and trousers and a felt hat but it was supposed that he had subsequently secured a coat of linsey-woolsey of a cinnamon or brown color.²

The following spring the counterfeit New Jersey fifteen shilling bills and the New Castle twenty shilling bills, which had been described in the Philadelphia papers some years before, once more appeared in circulation, the New Jersey ones dated 1733 and those

¹ Ms. Quarter Sessions Docket, Chester County, 1733-1742, pp. 174, 178.

² *The Pennsylvania Gazette*, June 10, 1742, p. 3.

of New Castle 1729.³ In the *Hoch-Deutsch Pensylvanische Geschicht-Schreiber* (Germantown) of April 16, 1743, directions were given for the detection of these counterfeits. In the false fifteen shilling New Jersey bills there appeared among the names of the signers that of Caleb Reper, which in the genuine was Caleb Raper; in the false, beneath the words EIGHTEEN GRAINS the M of the word March stood a little to the right of the N in eighteen, while in the true bills the M was directly beneath the N in eighteen; further, the foliage in the good bills was coarsely engraved, while in the counterfeits, especially in the ring or band in the coat of arms, the engraving was fine. The New Castle twenty shilling counterfeit notes were very like the genuine, save that the letters in the words TWENTY SHILLINGS in the top line were not straight, while in the true bills they were absolutely even.

On the morning of August 2, 1744, the authorities in Philadelphia arrested and committed to jail a man charged with counterfeiting the bills of the neighboring provinces, and on his person forged bills of New York were found in the amount of about £17. It was, moreover, believed that he had passed others of this same province. The man had been betrayed by Tom Bell, a notorious rascal who had seen the inside of many jails in various provinces and to whom the counterfeiter had applied for assistance in finishing his bills.⁴

By August 9 it was known that five or six men and two women had been jailed in Philadelphia as accomplices in counterfeiting the New York five shilling and forty shilling bills dated 1737, and a search was underway for others concerned. The bills were printed from a poorly engraved plate, and the signers' names on the five shilling notes were engraved and printed with the bill. The mint of the money makers was a log house in a remote part of New Jersey, and, in case of success, they had planned to counterfeit several other

³ *Ibid.*, March 10, 1743, p. 2.

⁴ *The American Weekly Mercury*, Aug. 2, 1744, p. 3; the same item is reprinted in *The Boston Evening Post* Aug. 13, 1744, p. 4. On the career of Tom Bell see the article on him by Clifford K. Shipton which will appear in volume 9 of *Sibley's Harvard Graduates*.

sorts of money of the neighboring provinces. Their downfall had been due to that fact that one of the gang solicited the aid of Tom Bell, who was asked to sign the bills.⁵ There appears to be no record preserved of the outcome of the affair.

Whatever may have befallen the persons discovered by Bell, their fate did not put a check on counterfeiting or passing even for a brief space. *The Pennsylvania Gazette* of November 15, 1744, warned that on the previous Saturday several false one shilling New Jersey bills had been uttered in Philadelphia. A description of them was given in these terms: "The Paper is pretty stiff and good, and some of the Bills have an Impression of a Sage Leaf, ill done, upon their Backs. If these Bills are compared with the True Ones, both being fair, many Variations may be observed both in the Signing and Printing, as the Counterfeits are a very bad Imitation of the True. Those who have not both Sorts to look at together, may take notice, that the Figures that make the Ornament or Border at the Bottom of the false Bills, which have a Resemblance of a Flower de Luce at Top, and something more under, stand apart, which in the True Bills stand close; and that in the False Bills the first I in the Word Shilling, that ends the Bill, is shorter than the last I in that Word; that the second L in the same Word is shorter than the first, and that the G is longer than the other Capitals, and made very open."

The Pennsylvania Gazette of November 29, 1744, carried a notice about a counterfeiter who had deserted from the army. It read:

Deserted from their Serjeant at Fredericksburg, in Virginia, Andrew Clark and James Fitzgerald, belonging to his Majesty's Regiment of Foot commanded by his Excellency Edward Trelawny, Esq; As an Encouragement to any Person that apprehends and delivers the above Deserters to Mr. Whitehead, Goaler in Philadelphia, I promise a Reward of Ten Guineas, Six for Clark and Four for Fitzgerald,

FREDERIK SHENTON.

N.B. Andrew Clark is an Edinburgh Man, by Trade a Silver-Smith, about 5 Foot 7 Inches high, a well-set strong Fellow, with brown bushy Hair, has

⁵ *The Pennsylvania Gazette*, Aug. 9, 1744, p. 3.

a small Scar upon his upper Lip, and lisps in his Speech: He had on when he deserted, his regimental Cloaths, being Red, turned up with Green: a Red Waistcoat, brown Fustian Breeches, a Pair of grey ribbed Stockings, and English Shoes. He counterfeits Pistereens, and had in his Pocket, when he deserted, Pieces of hammer'd Copper, and a Phial of Quick-Silver. He served his Time to Col. John Taylor, at the Copper Mines, and went off under Pretence of apprehending Fitzgerald, who is an Irishman, and had on, when he went away, a light coloured Jersey Jacket, and Check Shirt.

During the year 1745 considerable counterfeiting and passing of coin seem to have taken place. A certain John Thomas had the following item inserted in *The Pennsylvania Gazette* of March 19, 1745:

Notice is hereby given to all good People to whom these Presents shall come, of a strolling Woman, who goes under the Name of *Elizabeth Castle*, alias *Morrey*. She pretends to be a School-Mistress, Tayloress and Stay-maker, Embroiderer and Doctress. She is of little Stature, high Shouldered, grey Eyed, and very well qualified in Lying, Cheating, Defrauding, Cursing, Swearing, Drunkenness, Talebearing, Backbitting, Mischief-making among Neighbours, and is reported to be a Thief. She carries with her a Quantity of Pieces that shine like Gold, by which Means she hath deceived several Women and Children to their great Prejudice. She squeaks when she speaks, and hath done Damage in Newtown, Chester County: This is but little to what might be said within bounds of Truth."

Nothing further is known of this extraordinary person or of the reason for Thomas's insertion of this notice. It suggests that Elizabeth Castle passed pieces of base metal as gold coin to women and children, though, to be sure, the metal may not have been minted.

The Pennsylvania Journal, or Weekly Advertiser of May 16, 1745, reported that at Burlington in New Jersey a parcel of counterfeit twelve shilling bills, altered by the putting in of the word *twelve* at the top and bottom, had been discovered. In this connection it may be noted that according to the diary of John Smith⁶ a grand jury on the 16th of the 2nd month, 1746 [Is not the date rather 1745?], indicted a certain Williamson, a man of infamous character, for passing false money, as he had twenty counterfeit New Jersey bills,

⁶ Diary No. 2 in the Ridgway Library in Philadelphia.

dated 1733, each of the denomination of twelve shillings and so badly done that anyone who could read might perceive the fraud.

Whether Williamson's bills were merely altered, like those in the parcel found at Burlington, or actually forged, as the item in Smith's diary seems to imply, the criminal may, in all probability, be identified as the James Williamson who was indicted at a Court of Oyer and Terminer in Philadelphia for passing a counterfeit bill. The indictment was delivered into the Supreme Court at its September, 1745, term by William Till, one of the judges of the Court of Oyer and Terminer. Williamson pleaded guilty and was sentenced to stand in the pillory in Philadelphia for one hour between ten and twelve in the forenoon of Saturday, October 4, and then to be discharged upon payment of the costs of prosecution.⁷ The comparatively light sentence imposed would alone show that the money passed was not that of Pennsylvania but rather of some other province.

The Germantown newspaper of September 16, 1745, reported that false Spanish pistoles of fine brass were circulating. They were harder to the teeth than gold and were much too light, as a piece of brass equal in bulk to a piece of gold was not half as heavy as the gold.⁸

A person charged with passing counterfeit silver money was one Francis Wesley, who was indicted at the December Sessions, 1745, of the Bucks County Court of Quarter Sessions. He pleaded not guilty and was released on bail, himself in the amount of £40 and Joseph Hutchinson and Edward Lovet, Jr., each in the amount of £20. The coins he was alleged to have passed were described as half pieces of eight or pieces of eight, and the witness against him was one Joseph Inslee. The case was put off from term to term until September, 1746, when the indictment was preferred to the grand jury and returned Ignoramus, whereupon the defendant was discharged upon paying his fees.⁹

⁷ Ms. Minutes of the Supreme Court, Appearance Docket, Sept. 1740 – Sept. 1751, p. 93.

⁸ *Der Hoch-Deutsch Pensylvanische Geschicht-Schreiber*, Sept. 16, 1745, p. 3; the same item in English appeared in *The Pennsylvania Gazette*, Nov. 21, 1745, p. 2.

⁹ Ms. Minutes of Bucks County Sessions Docket, 1715–1753, p. 377 and Ms. Criminal

At the March, 1746, term of the Court of Quarter Sessions of Bucks County a certain John Nicholas was charged with uttering false money and at the June term was indicted, along with William Mack and Robert Newtown, for passing counterfeit pieces. Mack and Newtown were then tried and found not guilty but Nicholas, when he was called upon his recognizance, did not appear. Again, at the September term, he failed to appear, and his bail was forfeited. From the records of the December term it is found that the witnesses in the case were Robert Ellis, George Overpeck and David Humes and that the offence was the passing of counterfeit pieces of eight.¹⁰

In September, 1746, at the Court of Quarter Sessions of Bucks County one Henry Bosworth, who had been indicted for uttering a false twelve shilling bill and admitted to bail, himself in the sum of £40 and Benjamin and Peter Darling each in the amount of £20, had his indictment returned Ignoramus by the jury and was discharged on payment of his fees.¹¹

On July 23, 1747, President John Reading, President of the Province of New Jersey, wrote from Perth Amboy to Anthony Palmer, President of the Council of Pennsylvania in Philadelphia: "... By the Examination of some persons now in the Goal of the City of New York, It appears that Henry Bosworth has been guilty of Counterfeiting the Bills of this Province, and I am Informed that he has been lately apprehended in your Government, and is now in the Goal of Philadelphia. You are sensible that the practice of Counterfeiting money is dangerous to the Commerce of his Majesties subjects, and deserving of the punishment annexed to it, I have Sent the bearer hereof, Samuel Burrows, to wait on you to request that the said Henry Bosworth may be delivered to him, that he may

Docket of Bucks County, 1742-1750, March term, 1745, and June and September terms, 1746.

¹⁰ Ms. Criminal Docket of Bucks County, 1742-1750, March, June, September and December Sessions, 1746.

¹¹ *Ibid.*, September term, 1746, and the recognizance in the Bucks County File of documents of criminal cases, September, 1746.

be brought to his tryall in this Province, where the fact of which he is accused is made felony by an Act of our Legislature. . . ."¹²

President Palmer laid this letter before the council of Pennsylvania on July 27 and asked advice with regard to the request from New Jersey that he have Bosworth surrendered to Samuel Burrows, who was the Under Sheriff of Middlesex County in East Jersey. It was explained that Bosworth had been apprehended in Pennsylvania by the Sheriff of Bucks County by virtue of a warrant issued by the Supreme Court at the instance of the Chief Justice of New Jersey. There was, he said, a charge exhibited against Bosworth in New Jersey for counterfeiting pieces of eight, and he was wanted there in order that he might be convicted in the province where the witnesses lived and where the crime had been committed. The council advised President Palmer that he should inquire of the Chief Justice of Pennsylvania how President Reading's request might best be complied with.¹³

On the same day President Palmer wrote to the President of the Council of New Jersey: "... Henry Bosworth... has been examin'd by our Chief Justice, Mr. Kinsey, & by him remanded to Bucks Co Goal, & it is at his Instance that I have suspended issuing my Order to the Sheriff of Bucks to deliver Bosworth to Your Messenger. & refer you to his Letter to Chief Justice Morris, for his reasons desiring this of me. . . ."¹⁴

Bosworth was admitted to bail in Bucks County, and on September 17, 1747, he was indicted at the Court of Quarter Sessions of that county for counterfeiting a twelve shilling bill. When he was called, however, he did not appear. At the December term of this court it is recorded that he was to be tried for passing a false twelve shilling bill, knowing it to be such, and that the witness for the King was James Simson. But when Bosworth was called, he again did not appear and was not to be found,¹⁵ and his case disappears from the records.

¹² *Pennsylvania Archives*, I Ser., I, p. 674.

¹³ *Colonial Records of Pennsylvania*, V, p. 94.

¹⁴ *Pennsylvania Archives*, I Ser., I, p. 765.

¹⁵ Ms. Criminal Docket of Bucks County, 1742-1750, September and December terms 1747.

It is not at all unlikely that Bosworth may have been an associate of two men who went by the names of Maynert Johnson and William Casway from New Jersey. It was reported from the back parts of Pennsylvania that these two had lately been travelling, and perhaps still were travelling, and passing false New Jersey twelve shilling bills dated March 25, 1733. The notes were so badly printed and signed that only a person not accustomed to see New Jersey bills could be deceived by them. The lines were very crooked, the letters and figures much misshapen and disproportioned, the flourishes and arms very dull and blindly impressed, and several of the words scarcely legible.¹⁶

One Thomas Hall may also have been concerned in the business. He was indicted on May 26, 1747, “for Counterfeiting” by the grand jury at the Court of Quarter Sessions of Chester County but his indictment was returned Ignoramus by the grand jury, and Hall was discharged upon payment of fees.¹⁷

In August it was discovered that false coin was being passed, and *The Pennsylvania Gazette* of August 20, 1747, printed a notice that on the previous Monday a certain Francis Kelly had been committed to jail in Philadelphia on suspicion of counterfeiting French pistoles. Various others were likewise taken up there for having made Spanish dollars, and it appeared that a considerable number of persons were engaged in the work, among whom were good artists who could make the copper white and tough and prepare moulds and dies. The counterfeits were like the true coins in all respects save that they could not withstand testing in fire. Hence the countrymen could not be warned about them, though persons who knew silver well could detect them and would refuse to accept them. As a result the poor, simple people would have the loss from the false pieces. The gang also was making dollars of pewter, coated with silver, and these the most simple person could discover, since they did not ring like silver.¹⁸

¹⁶ *The Pennsylvania Gazette*, April 16, 1747, p. 4 and the *Pensylvanische Berichte*, May 16, 1747, p. 3.

¹⁷ Ms. Quarter Sessions Docket, Chester County, 1742–1749, p. 92.

¹⁸ *The Pennsylvania Gazette*, nos. 973 and 975 and the *Pensylvanische Berichte*, Sept. 16, 1747, p. 4. *The Supplement to the Pennsylvania Gazette*, No. 973, p. 2, in a Phila-

Two of these counterfeiters, John Thomas Jones and Stephen Barnes, were tried at the Supreme Court in Philadelphia and "found Guilty of being possess'd with divers Stamps for making mill'd Pieces of Eight, with intention to coin the same, & were sentenc'd to stand in the Pillory two Market Days, to be imprison'd for the space of six months, & to give Security for Six Months after, & to pay a fine of £50 each." A petition from these prisoners, then in the Philadelphia jail, was read before the Provincial Council on September 25, 1747. They requested that the Council remit the sentence, since they were willing to serve in the army anywhere in the King's dominions that the council might direct. The opinion of the board was "that as there is reason to believe from the sundry Examinations taken in Jersey & other places, that there is a great number concern'd in this most pernicious Practice of coining, if the Prisoners will discover all their Accomplices, & make a full & fair Confession of all that they know relating to themselves & their Confederates, that they may be entitled to Mercy; but suspend their determination on the Petition till they know what is to be expected of this kind from the Petitioners, & in case they are inclin'd to make an honest discovery, the Chief Justice is desir'd to take their Examinations."¹⁹

On October 16 the examinations of Jones and Barnes were read before the council, which, finding that there were no discoveries of consequence therein, unanimously decided that the sentence be no longer respited and ordered that the sheriff do his duty.²⁰ Both examinations, taken before Chief Justice John Kinsey on October 7, 1747, have been preserved.²¹ That of Stephen Barnes, late of Greenwich, Morris County, New Jersey, blacksmith, is to the following effect: about three years before one Thomas Dote, at that time a constable of Morris County, informed him (Barnes) that a certain John Bellamy was suspected of counterfeiting Spanish pistoles, and delphia item dated August 10 had reported that the previous Friday several persons were committed to the local jail on suspicion of counterfeiting pieces of eight.

¹⁹ *Colonial Records of Pennsylvania*, V, p. 119.

²⁰ *Ibid.*, V, p. 125.

²¹ In the collection of Mr. J. N. Spiro of Maplewood, N. J.

that he (Dote) upon the order of Justice Anderson had gone to the house of one Edmund Robinson, where, upon search there had been found in Bellamy's pocketbook the following items: three pieces of eight which were probably good, four counterfeit pistoles, about £80 in false Rhode Island money and a counterfeit New York five shilling bill.

John Bellamy was no novice at the counterfeiting game, for beyond reasonable doubt he may be identified with a blacksmith of that name who in 1735 was living in Greenwich, Connecticut. On January 23 of that year Solomon Close, a grandjuryman, made complaint against Bellamy to Nathaniel Peck, a justice of the peace. On a writ issued by the justice Bellamy was apprehended by William Reynolds, constable of Greenwich. Justice Peck examined him the same day and ordered him confined in jail on suspicion of having coined and passed false half pistoles. Thomas Hill, the sheriff, however, released his prisoner on bail but at the Superior Court held at Fairfield on February 25, 1735, Bellamy failed to appear, so that the sheriff was ordered to pay a fine of £100.

Bellamy, however, did not escape so easily, for on April 30 Constable Reynolds complained against him to Justice Ebenezer Mead. A writ was issued, Bellamy was taken up and bound over to the next Superior Court in bail of £500, which was furnished by Gershom Lockwood of Greenwich. At the session of the court held at Fairfield in August, 1735, it was charged that Bellamy at his shop in the Parish of Horseneck in Greenwich had made Spanish half pistoles of brass and other mixed metals. It was stated by one Abraham Todd, one of the witnesses against him, that he had seen Bellamy with iron dies, had remonstrated with him about his bad conduct and told him what a grief he would be to his father. The grand jury, nevertheless, returned the indictment Ignoramus. Yet he was still in difficulties on account of his failure to appear in court in February and in October he petitioned the General Assembly to permit him to give a bond of £100 and have the sentence against Sheriff Hill declared fully satisfied.²²

²² Superior Court Files (ms. in the Connecticut State Library), Fairfield County, 1730-1739, A-C, August, 1735; Superior Court Records (ms. in the Connecticut

Early in 1739 Samuel Darling of New Haven traced a bogus New York 5/ bill back to Bellamy, who was living in Wallingford, and it appeared that Bellamy was both the forger and the passer. Darling complained to Joseph Whiting, assistant, on February 27 and a writ was issued directing either the Sheriff of New Haven County or the Constable of Wallingford to search for bills, plates or counterfeiting materials and to arrest Bellamy or anyone else concerned. Bellamy was apprehended and released on bail of £300 furnished by himself and his father, Matthew Bellamy, Sr., for his appearance at the Superior Court to be held in New Haven in August, 1739. John was present in court on the second day of the session and was indicted for having, about the middle of February, passed two counterfeit New York 5/ bills. On the next day he was called three times but did not appear; his bail was declared forfeited, while Darling, as informer, received a reward of £20.²³ It was doubtless at this time that the blacksmith moved southward, only to continue his nefarious work in another province.

Some twelve months earlier Dote informed Barnes that he (Dote), Folker Folkerson and Anthony Hutchins were to have a pair of dies or stamps, for coining pieces of eight, made for them by a certain Bruff of Elizabethtown, and that Folker Folkerson paid £120 for them. Later Barnes saw such a set of dies in the custody of Peter Ulrick in Philadelphia, dies which, he was informed by his fellow prisoner, John Jones, had been secured by Ulrick from Folker Folkerson.

In the examination it was further stated that Dote had offered to employ Barnes to assist him and others in counterfeiting pieces of eight; that John Jones told him (Barnes) of another set of stamps for coining pieces of eight which was in the custody of a younger

State Library), Vol. 5 1/2, Feb. 25 and Aug. 26, 1735; *Colonial Records of Connecticut*, VIII, p. 23.

²³ Superior Court Records (ms. in the Connecticut State Library) VII, August 28, 1739, and Crimes and Misdemeanors (ms. in the Connecticut State Library) IV, fols. 9-11.

brother of Folker Folkerson (or Folkerston); and finally that John McNeal and Hans Davacutt were partners with him in a design for coining the Spanish money.

John Jones, late of Bristol, England, smelter, in his examination largely corroborated Barnes's story. In the spring of 1747, at Barnes's house, there had been discussion of a mine at Lamacunk in New Jersey and there were several persons at the mine, among them Anthony Hutchins, who "behaved as if he were principally concern'd." Jones spoke of Dote, of Bruff's making a set of dies for striking pieces of eight, and of the purchase of the set by Dote, Folkerson and Hutchins. In addition he related his going with one Campbell and others to Bound Brook to the house of Folker Folkerson's brother, where he saw a set of dies and where John McNeal showed him some metal. A certain Hans Davacutt offered Jones £20 if he would make this metal malleable but Jones said that it could not be done since it was base metal.

These examinations had not satisfied the members of the Provincial Council, but before the sentence was executed on the two prisoners the council again took up their case, on October 22, when it was represented that the clerk employed to take down their confession had omitted a material part thereof, namely that Jones had thrown the dies for making dollars into the river. Thereupon the council directed the sheriff to make further enquiry into this circumstance and to report back to the council if the dies were found; if they were not found, he was at once to execute the sentence against Barnes and Jones.²⁴

By November 9 the petitioners had told the sheriff the exact place where the dies had been thrown, and the sheriff had found them and produced them to the council. It was then ordered that the pillorying of Barnes and Jones be remitted but that the residue of their sentence be performed. In addition Mr. Lawrence and Mr. Till were instructed to be a committee to see the dies utterly defaced and then to produce

²⁴ *Colonial Records of Pennsylvania*, V, p. 134.

them in council,²⁵ a task which was duly performed on the following day.²⁶

Petitions from Jones and Barnes were read before the council on Friday, June 3, 1748, praying that they might be released from jail if they enlisted to serve his Majesty, and their prayers were promptly granted.²⁷

Apparently the John McNeal, mentioned by both Barnes and Jones as concerned in counterfeiting metal, turned to forging and passing bills of credit of New Jersey, for on August 20, 1748, Robert Hunter Morris, Chief Justice of New Jersey, issued his warrant to the High Sheriff of Somerset County to arrest McNeal for that crime. The warrant also called for the arrest of McNeal's accomplices, who were mentioned as follows: Jacobus Vanetta, Robert Livingston, David Brant, Court Timery, Isaac Woortman, Ebenezer Doud, Abraham Anderson, Peter Salter, Joshua Robins and Abraham Southerd. The High Sheriff was also instructed to search their homes and all likely hiding places and to seize all tools or materials for counterfeiting either bills or coins as well as all such counterfeit money.²⁸

It would seem that many, and perhaps all, of the persons sought were not to be found. In any event, on August 20, Chief Justice Morris issued another warrant, this time to the Sheriff of Morris County, John Kinney, to make a similar search and seizure and to arrest Job Allen, John Pipes, Andrew Morrison, Abraham Hathaway, Jonathan Hathaway, Seth Hall, Jacobus Vannatta, John Mc Neal, Joshua Robins, Abraham Anderson, Robert Livingston, Court Timeray and Isaac Woortman.²⁹

At the Court of Quarter Sessions of Bucks County one Thomas Quick was presented on September 17, 1747, for counterfeiting

²⁵ *Ibid.*, V, p. 140.

²⁶ *Ibid.*, V, p. 145.



²⁷ *Ibid.*, V, p. 268.

²⁸ Warrant dated August 17, 1748, in the J. N. Spiro Collection.

²⁹ Warrant dated August 20, 1748, in the J. N. Spiro Collection.

money — it is not specified whether it consisted of coin or bills — but the jury returned his indictment Ignoramus.³⁰

Not long after this case *The Pennsylvania Gazette* of October 22, 1747, printed the following warning:

Our Readers are cautioned to beware of a new Parcel of Counterfeit New-Jersey Fifteen Shilling Bills, just beginning to appear among us. They are in Imitation of the newest Money, dated July 2, 1746, and may be known by these Particulars: The Paper of the Counterfeits is thin and smooth, and when look'd thro' in the Light, appears fair and free from Knots: the Paper of the true Bills is thicker, rougher, and when look'd thro' in the Light appears clouded and uneven: The Counterfeits are wholly done from a Copper-plate, the Back as well as the Foreside; the true Bills are printed from common Types, in the common Printing-Press: The three Crowns by the Side of the Arms in the Counterfeits are unlike each other, and more round than those in the true Bills, which are like each other, and the same with this  The Flowers above and below those Crowns are in the true Bills the same with this  in the Counterfeit they are nothing like: The Value of the Bill just over the Signers Names in the true Bills is in the same Characters as here XV SHILLINGS ‡ in the Counterfeits the Letters of the Word *Shillings* are larger. There are many other Marks by which they may be distinguished, but these, we hope, will be sufficient at present.

The same newspaper of October 29, 1747, warned that a new impression of the counterfeit fifteen shilling New Jersey bills had appeared, done on thicker paper and a better imitation of the genuine ones than those described on October 22. The *Pensylvanische Berichte* of November 16, repeated the description of some of the marks by which the false New Jersey fifteen shilling bills could be recognized but it also added further details: of the three crowns near the coat of arms the uppermost was smaller than the lower two; the word XV Shillings was badly engraved; in the false bills the S stood directly above the V and in the good bills it was above it to the left; in the good bills the Löb[Lion?] had a crown on the head and in the false bills a cap. There were besides very many marks in the false

³⁰ Ms. Criminal Docket of Bucks County, 1742-1750, Sept. 17, 1747.

bills which could be rubbed out or scratched, so that whenever the marks of distinction were erased or the place was uncommonly dirty, that in itself was suspicious.

The account in the German paper then continued as follows:

Sometimes before false paper money has been made in England or Ireland and brought into this country and invariably has been discovered at once. Now, however, it seems as if such a master has come into the country. An order has been placed in a paper mill for such paper as is to be white on one side and gray on the other, as the Philadelphia money is; thus they will want to pass the Jersey money in Pennsylvania and the Philadelphia money in New Jersey.

They might as well, however, let it be, for it is quite impossible for one to imitate paper money so that it will be like the genuine in all details; unless one has the same letter, flowers, foliage and all details wherewith the genuine money was made, and if one should think that he had done everything successfully, yet the printer has other secret signs of which another person does not think. The poor man accepts the counterfeit and cannot keep it long; whoever has doubts about it then goes to the printer. The printer knows his own work, and thus the matter becomes apparent. It is shameful for one to try to support himself in this fashion, for usually the poor or the stupid or simple people have to suffer from it if they want to buy something or pay their debts when those who understand it do not take the money from them or when they make a cross through it.

The same item warned also of false twelve shilling New Jersey bills, dated March 25, 1733. They were in part sullied and patched as though they were old; the two moons were smaller than in the good bills, and anyone who held a genuine bill next to a counterfeit could easily recognize it.

Counterfeit six shilling New Jersey bills were also reported to be circulating, and the writer of the item, probably Christopher Sauer, remarked that no one needed to accept suspicious money unless he knew the man who would take it from him again, while on the last Philadelphia money was printed: To Counterfeit is Death.

A few days later *The Pennsylvania Gazette* of November 19, 1747, described the false six shilling New Jersey bills. They were dated

July 2, 1746, and done wholly from an engraved copperplate, while the genuine bills were printed with common types. In addition to other marks the counterfeits could be detected by the fact that the S in the word [*SILVER*] was much larger than the rest of the same word, while the s in *Grains* was very badly made s ; in the border of flowers around the sage leaf on the back of the counterfeits the flourishing was more open, loose and irregular than in the true bills. Likewise the strokes representing the fibres of the leaf did not appear as naturally rough as in the true bills; the S in the word SIX at the top of the counterfeits was much smaller than the IX, and the letters in SHILLINGS at the top of the false notes stood very crooked.³¹

Two of the persons concerned in putting out these counterfeits were John Lummis, a native of Narraganset and a blacksmith, and "Dr." Joseph Bradford of New London, who sometimes used this name and sometimes that of James or Joseph Bill. They were arrested at Hackensack early in December for uttering false New Jersey bills. One of them, when first apprehended, made an excuse to go behind a barrack, where he was seen to stick something in it. The object was revealed to be a large bundle of bills, which, together with others found on their persons, made in all 102 bills of fifteen shillings each, of which thirty-six were signed, 142 bills of twelve shillings each, of which eight were signed, and 89 bills of six shillings each, of which twenty-seven were signed. Some of the six shilling bills were dated 1743 and others 1746.³² Unfortunately Bill escaped from the Bergen County jail,³³ and continued his career of crime.

Bill quickly associated himself in Massachusetts with Isaac Jones and Jonathan Bryant in the counterfeiting of bills of credit and these

³¹ The same description of these bills is found in German in the *Pensylvanische Be-richte*, Dec. 16, 1747, p. 3. The descriptions of the false New Jersey fifteen, twelve and six shilling bills are also given in *The Pennsylvania Journal, or Weekly Advertiser*, Dec. 15, 1747, pp. 2-3.

³² *The Pennsylvania Gazette*, Dec. 15, 1747, pp. 2-3; the *Pensylvanische Berichte*, Jan. 16, 1748, p. 2; for other material see Kenneth Scott, *Counterfeiting in Colonial New York*, pp. 73-77.

³³ *The New-York Evening Post*, Aug. 5, 1751, p. 3.

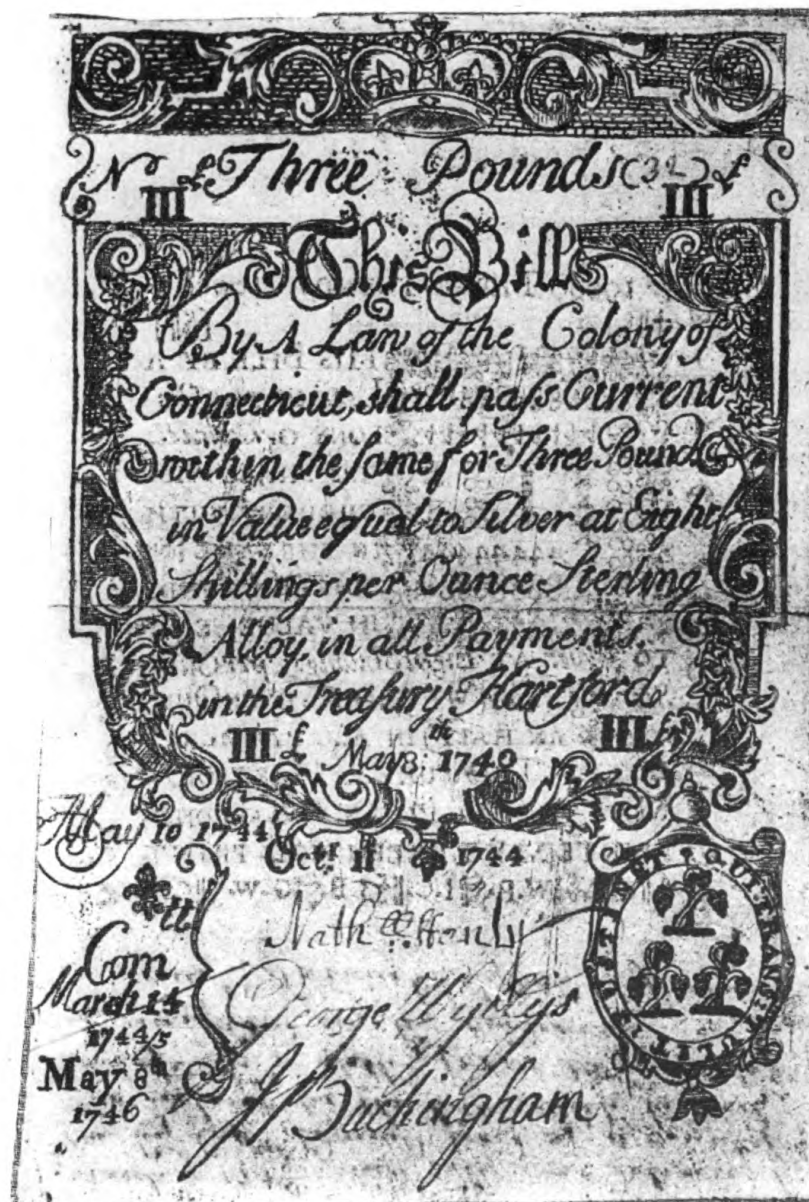
rogues enlisted a number of persons as passers of their product. Bryant was apprehended in 1749 but he managed to warn Jones and Bill. The pair made their escape from an island near Boston and went to work again in the woods at Newton, where they were seized and then taken to jail in Cambridge. While they were being transferred to prison in Boston, they eluded their guards at Watertown. Bill was apparently taken up in Connecticut by Paul Welch of New Milford but he soon broke out of the jail in Hartford. In March, 1749, Jones and Bill were conveyed across to Sag Harbor on Long Island by one Jedediah Ashcraft of Groton, who described Bill to the authorities as a tall man, not thick of body and well dressed. He added that Bill was pretending to be a great physician and was going by the name of Doctor Wilson.³⁴

In 1751 Bill was associated with Jonathan Woodman and Samuel Dunsten in counterfeiting and was jailed in New York City. When, however, the only sure evidence against him, Woodman, hanged himself in his cell, Bill was released and continued his making of money until late in 1772, when he was arrested in New York Province, was tried, convicted and sentenced to death at Albany and executed there on April 2, 1773.³⁵

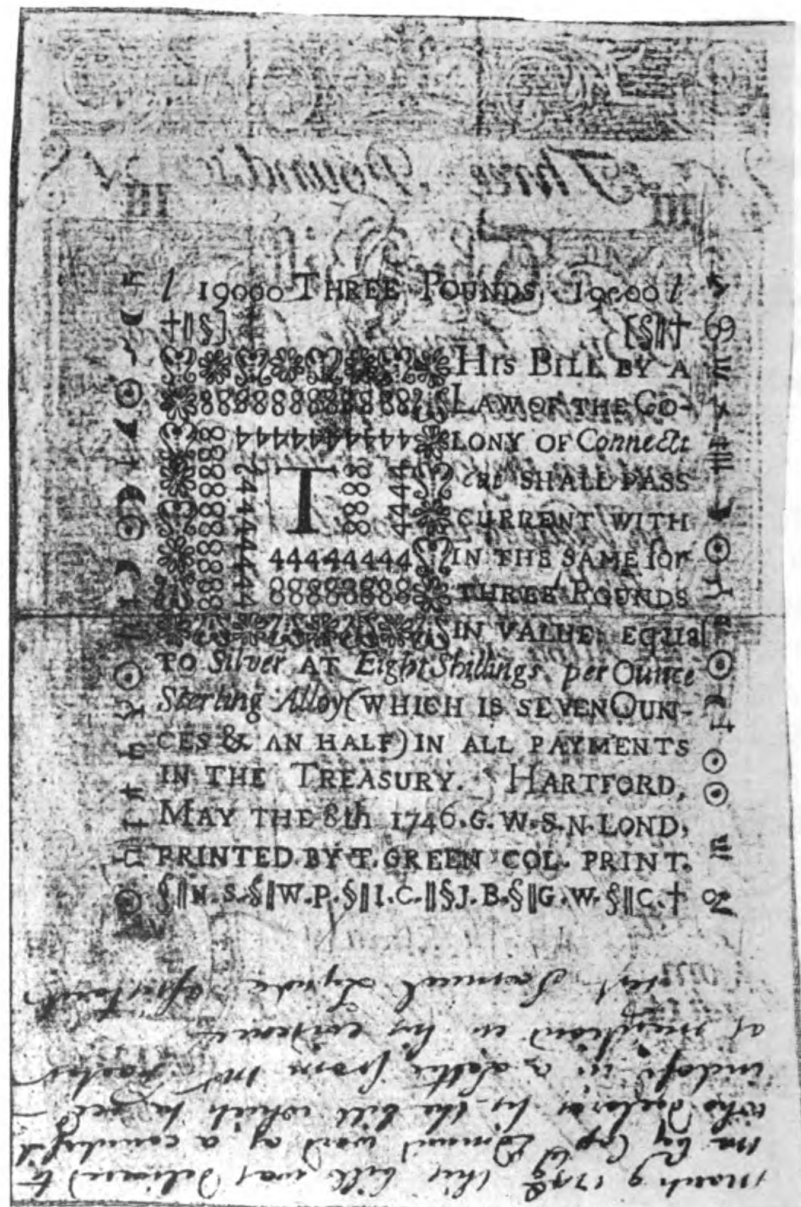
A sample of his workmanship has probably been preserved in a counterfeit Connecticut £3 bill now in the Connecticut State Library (see illustration). It was secured from Benjamin Gale, at whose house David Wilcox, one of Bill's passers, roomed with Samuel Ingham, suspected of being another passer, by Jonathan Factor of Branford. Factor sent the note to Captain Edmund Ward in Guilford and it was then turned over by Ward to Samuel Lynde, assistant.

³⁴ *The Boston Evening Post*, March 13 and 20, 1749; *The Boston Weekly News-Letter*, March 16 and 24, 1749; Crimes and Misdemeanors (ms. in the Connecticut State Library) IV, fols. 123-126; *Colonial Records of Connecticut* IX, p. 465; Superior Court Files (ms. in the Connecticut State Library), New London County, March, 1750; *The Court Diary of William Samuel Johnson 1772-1773* (Washington, D.C.: The American Historical Association, 1942), p. xliii.

³⁵ Kenneth Scott, *Counterfeiting in Colonial New York*, pp. 75-77 and 154-170.



COUNTERFEIT CONNECTICUT NOTE OF J. BILL
(Courtesy of Connecticut State Library)



COUNTERFEIT CONNECTICUT NOTE OF J. BILL
 (Courtesy of Connecticut State Library)

Gale, it appears, was unwilling to swear the bill on Ingham, so the authorities were unable to secure Ingham's conviction.³⁶

The New Jersey authorities rightly suspected that an organized gang was forging the currency of the province. Governor Jonathan Belcher, in an address to the council and assembly of New Jersey on Thursday, November 19, 1747, said: "I am, *Gentlemen*, in the next Place to acquaint you, that I have lately received from one Mr. *Hopkins*, a Magistrate in *Rhode-Island* Government, a Number of counterfeited Bills of this Province, which Mr. Secretary shall deliver you. We are obliged to this Gentleman for his good Care; and from this, and other Informations of the like Kind, I have reason to believe there is a Knot, or Combination of villainous Persons, that are making a Trade of forging the Bills of this Province; And this Matter well deserves your speedy Care and strict Enquiry, as it strikes at the very Vitals of your Currency, and so must nearly affect not only your Commerce, but your other Estates also."³⁷

About mid-August, 1748, there came a report from Anweil and its vicinity that there was a large band of money makers, among whom were supposed to be important and wealthy persons. Some apparently acted openly and others secretly, and they had used the services of a printer, one Heinrich Jaeger, who admitted that he had made £40 himself but had passed only a fifteen shilling bill. For his crime he was tried at a Court of Oyer and Terminer for counterfeiting the current money of New Jersey, was convicted and hanged in Trenton on Saturday, July 16, 1748, leaving behind a wife and nine children, most of whom were small. Further, at the gallows his wife had a fine or tax of £50 imposed on her. One of the gang, who had turned King's evidence against him at the trial, was no sooner released than he bought a horse with counterfeit money but was overtaken and imprisoned. It was reported that the false money was being passed

³⁶ Records, Court of Assistants and Superior Courts 1710-1749 (ms. in the Connecticut State Library), pp. 337-338; Superior Court Files (ms. in the Connecticut State Library), New London County, March, 1749.

³⁷ *The New-York Gazette, revived in the Weekly Post-Boy*, Dec. 6, 1747, p. 1; the same is found in German in the *Pensylvanische Berichte*, Dec. 16, 1747, p. 2.

in Virginia and various remote place by persons who knew nothing of it. Several persons, in addition to Jaeger (or Yager) were arrested and imprisoned on suspicion of being guilty of the same crime, and it was said that the government was determined to exert itself in detecting and punishing this growing evil.³⁸

In October, 1748, Daniel and Rebecca Johns and Stephen Phillips were convicted, presumably at the Mayor's Court of Philadelphia, of coining and passing false pieces of eight. At a meeting of the Common Council of the city on January 8, 1749, a petition from them was read, wherein they claimed that this was their first offence and that their crime was due to their extreme ignorance of its nature and mischievous consequences. They explained that they were very poor and lacked the means to pay the heavy fines which had been imposed on them. Their pleading was successful, and the council promptly remitted their fines.³⁹

The public in Philadelphia was cautioned in November, 1748, to beware of counterfeit twenty shilling New Castle bills dated March 1, 1734. All were done from copperplate, while the genuine ones were made from common printing letters. The false bills might be detected by comparing all the letters of the same sort, especially f with the f's in the line, Act of Assembly of this Government of; the f's in the three of's were alike in the true bills but unlike each other in the counterfeits. The signing of the false notes was very badly executed.⁴⁰

Counterfeit Spanish doubloons were found circulating in Philadelphia in December, 1748, and January, 1749. *The Pennsylvania Gazette* of December 20 reported: "Some . . . have been found, on Trial, to contain little more than Eleven Penny-weight of Gold, and the rest Copper. They may be distinguished from the true Ones, by the Roughness of the Impression, which is not struck or stamped

³⁸ *The Pensylvanische Berichte*, Aug. 16, 1748, p. 2 and *The Pennsylvania Journal and Weekly Advertiser*, July 28, 1748, p. 3.

³⁹ *Minutes of the Common Council of Philadelphia*, p. 520.

⁴⁰ *The Pennsylvania Gazette*, Nov. 10, 1748, p. 2 and the *Pensylvanische Berichte*, N. 16, 1748, p. 3.

as in the true Ones, but cast in Sand; and by the Roundness and Smoothness of the Edges, which are hammer'd up after Casting." A more lengthy account of the same coins was given in the *Pennsylvanische Berichte* of January 16, 1749: they were circulating among the simple people and were, in general, heavy, but could be recognized by the fact that the lower part was rougher than the upper; they were cast in sand and not struck, and hence the bottom part was rough and the upper part hammered smooth; they were mixed with copper and quicksilver, and therefore no larger than the genuine coins; some contained so much quicksilver that it shone out on the edge and had white spots; if they were thrown down on a stone, they would fall to pieces; some were hammered round on the edge; if they were tested in a cupel, it was found that some were only half gold; others were only twelve shillings less in value, while still others lacked thirty to forty shillings in value.

Other false coin was likewise passing at this time, namely three sorts of milled dollars, two dated 1741 and the other 1744. In the counterfeits dated 1744 the R and A in VTRAQUE stood too far apart, so as to make VTRAQUE look like two distinct words. As for those dated 1741 (see illustration opposite p. 76), one sort might be known because the A in HISPAN was much too small for the rest of the letters; in the other sort the space where the date was placed was much broader than in the true coins; also the left side of the crown on the left hand pillar was directly under the A in VTRAQUE, but in the true dollars the same left side of the crown fell between the R and the A; all of these dollars were well milled at the edges but in general the letters were not so well made and regular as in genuine pieces. The counterfeits were of base metal and contained but two shillings eight pence worth of silver and the rest copper; if a bit of the surface, which was silvered over, were scraped away and the place sullied by rubbing on the short hair of a man's head, then the brassy complexion would appear. The counterfeits, if placed on the end of a finger and struck with a small key, all yielded a shriller sound than the true ones. Before January 24, 1749, several Germans had

been arrested and imprisoned for being concerned in uttering them but the principal workman had fled, presumably with his tools.⁴¹

Shortly before February 14, 1749, a person was arrested in Philadelphia "on suspicion of being concerned in coining of Spanish Rix-dollars,"⁴² and soon Christopher Sauer in his Germantown newspaper printed a lengthy article about the coining which was going on. Since his last article, that of January 16, on the subject, some new types of Spanish doubloons had appeared. He wrote:

The doubloons are not rough like those last reported but rather smooth and thick; these also are not all like one another; some are particularly thick in the middle and of very pale gold. The merchants in Philadelphia call them "Germantown doubloons." The other type appears like the good ones, so that even the goldsmiths cannot recognize and differentiate them from their appearance. A merchant in Philadelphia is said to have taken in such a doubloon and to have sent it to a goldsmith and asked if it was good. The goldsmith replied that it was good. The merchant had doubts and sent it to another goldsmith, who also reported that it was genuine. At this the merchant sent it to a third goldsmith, who tested the interior of the doubloon and found that it was only half gold. If, then, goldsmiths cannot differentiate the coins by their appearance, how is the farmer, who has, indeed, had little gold in his hands, to recognize them?

Sauer continued with the statement that three sorts of false dollars were also circulating. As long as they were new, their exterior was as white as that of the genuine ones. The flowers outside on the edge were as clear as in the true and in the impression differed little from the genuine, though it was possible to recognize them. Only dollars bearing the dates 1741 and 1744 were so far suspicious, and, to recognize the false coins, much the same directions were given as had been published in *The Pennsylvania Gazette* of January 24, 1749. Sauer added, however, that on one variety of the counterfeits dated 1741 the space before the date was broader than in the true money. He also suggested that in the case of suspicious dollars one should

⁴¹ *The Pennsylvania Gazette*, Jan. 24, 1749, p. 2.

⁴² *Ibid.*, Feb. 14, 1749, p. 2.

shave a spot and rub the place with saliva, whereupon the copper would shine through, as the coins were coated with a silver wash. "It is apparent," he concluded, "that they are being made in German-town and it has become well enough known through the country who the coiner, his helper, and his helper's helpers are."⁴³

In the *Pensylvanische Berichte* of March 1, 1749, Sauer informed his readers that since his article of two weeks before three further types of Spanish dollars had appeared, all dated 1742. In addition there were two other sorts, one dated 1744 and one dated 1737. Such counterfeits were not so neatly struck, for the bad metal was hard and not so easy to coin. For this reason the impression was more blotchy and, if the counterfeits were scraped and rubbed with saliva, the copper appeared reddish, while genuine coins remained white as fine silver and rang almost the same, the one as the other, but the false ones rang either much clearer or very badly.

Thomas Penn was informed of the counterfeiting, either about this time or a little later, and on September 7, 1749, wrote from London to Lynford Lardner in Philadelphia in these terms: "I am concerned to find that you have been so much imposed on with the Counterfeit Doubloons but think the method you have taken of weighing them will secure you against any loss. if pieces of eight are also adulterated, the damage will be much greater as I suppose their value is ten times more than the Gold, and how the five thousand just arrived will turn out we shall soon know."⁴⁴

The false coiners, however, soon came to grief, as is shown by the article printed in Sauer's *Pensylvanische Berichte* of March 16, 1749, whose translation from the German is as follows:

One could have written the sheet full of what has taken place in Pennsylvania, if one had wanted to describe, from the devil's kingdom (which made its beginning with men through cunning, lies and deceit), what the names of the money coiners and their colleagues were, how they began and carried on the business, how they were discovered, apprehended, and

⁴³ The *Pensylvanische Berichte*, Feb. 16, 1749, p. 3.

⁴⁴ Penn's Letter Book, II, p. 281 (in The Historical Society of Pennsylvania).

examined, what they confessed, denied and held back, etc., etc., etc. All this however, would have been of no use; another person of more evil intent could have learned still further wickedness from it; in place of it there has been introduced into the newspaper a beneficent reminder and warning with regard to that kind of activity in the future, for the good of others and of these mentioned, in order to warn all Germans in the whole country that in the future no one may any longer incur that kind of sin and shame to their own injury and that of others, not at all out of passion and hatred against anyone, but for their profit and improvement. Immediately thereupon one of those struck by it, who does not want, as it seems, to mend his ways, or it may be that there are more than one of these, has had printed in the Philadelphia German Fauna a libel against Sauer, to which he is not willing to answer a word, except that he is not willing in the future to desist from printing in the paper whatever redounds to the honor of God, serves for his neighbor's benefit and for the disclosure and discovery of the realm of the devil, whether it be a question of living swindlers, of cutpurses in the body or in the spirit or whether they be as dead as Judas, about whom it is still written seventeen hundred years after his death: "He was a thief." One may to his heart's content hereafter scold, slander and defame Sauer, tell lies about him or write what one wants, he will utterly disregard it, and, if someone wants to print something in the paper to the aforementioned purpose, he may send it in free. Sauer will be glad to allow himself to be scolded, dishonored and vilified; but no one is to expect scolding and vilifying in return; that kind of thing he will leave to bad boys and the like, and he will act as one who goes his way and allows each bird to sing its song according to its fashion, for, so long as the devil still has children and servants, it is not to be expected that anyone who has as his aim the slightest good or useful thing might remain unattacked.

Unfortunately Sauer had named no names, but the persons arrested were tried, convicted and sentenced the last week in September, 1749, when the Supreme Court had before it the cases of a number of coiners. Two were probably the Dutchmen named Hawke, who had been committed to jail in Philadelphia during the second week in September on suspicion of being concerned in counterfeiting doubloons and pieces of eight.⁴⁵ Others were beyond question persons tried at a

⁴⁵ *The Pennsylvania Gazette*, Sept. 14, 1749, p. 2.

Court of Oyer and Terminer held in Bucks County during the second week in September. At this court "several Indictments were found against Persons concern'd in Coining and Uttering bad Silver and Gold Money." One of these, convicted of coining, was fined £40 and sentenced to stand one hour in the pillory on October 5; two were convicted of having agreed with several others to make base metal pass for silver and gold. Since, however, some questions arose as to rendering a judgment on the verdict of the jury, the determination was deferred to the Supreme Court, which was to be held the last week in September.⁴⁶

It is probable that the two men named Hawke, the three persons from Bucks County, and individuals taken in Germantown were associates. This, however, is not definitely established, and the account given by Sauer in the *Pensylvanische Berichte* of October 16, 1749, apparently is concerned only with persons arrested long before the Hawkes or the individuals from Bucks County. He states that the case of the money makers came to an end at the Supreme Court during the last week in September, after the accused had been a full year in prison or going about on bail. Their lawyer could make no better plea than that the jurymen themselves should reflect carefully before imposing too severe a judgment. And the judgment was, indeed, a mild one: one of the coiners of silver was fined £40, another £20 and another £5, while each of the coiners of gold was sentenced to pay a fine of £10.

There was, at the close of 1749, a plague of counterfeits in Philadelphia, this time of forged paper bills of credit. *The Pennsylvania Gazette* of November 30, 1749, desired its readers "to beware of Counterfeit Pennsylvania Twenty Shilling Bills, which have lately appear'd among us: The Words, Arms, and Ornaments, of the Counterfeits, are done with a Pen; whereas the Words of the True Ones are done with Printing Letters, and the Ornaments, &c. cut. Also of Counterfeit Jersey Six Shilling Bills; the Impression is very black and fresh, they are done from a very bad Copperplate, and the

⁴⁶ *Ibid.*, Sept. 21, 1749, p. 3.

Letters are so badly proportioned, and stand so irregular, that they may be easily discover'd. The True Ones are likewise done with Printing Letters. The Counterfeits of both Sorts may be seen at the Post-Office."

The *Pensylvanische Berichte*, which appeared the next day, December 1, gave a detailed description of what were apparently quite different counterfeits of the Pennsylvania twenty shilling bills. These were dated August 10, 1739, bore four crowns, and had appeared after some ships arrived in Philadelphia with Newcomers and Newlanders. The bills were well executed, save that the crowns were a little too pointed, especially on the right; there were a couple of other marks of distinction, which, however, the swindler could easily change. But the clearest mark was the fact that the paper of the counterfeits was whiter than that of the true bills, for the Pennsylvania money was intentionally made so that one side of bill was white and the other grey; the false bills were patched, and on the back each one had a piece stuck on though they were not torn, and they were on purpose sullied, as if they were already old. In spite of the fact that they were well executed, as soon as a printer saw them, he would know them as certainly as a weaver of linen knows what is linen or half linen and it could not be hidden. If the swindler made them correctly, the words, "To Counterfeit is Death," would be on the back.

The Pennsylvania Gazette of December 12 warned against forged threepenny bills, done from copperplate but so badly executed that they might be known at first sight; the newspaper cautioned the public to be on guard against ninepenny, sixpenny and fourpenny bills which might also have been counterfeited.⁴⁷

At this same time New Jersey six shilling counterfeits also appeared and were described as blacker than the good ones, as still fresh, and printed from poorly cut copperplates. They could be readily detected as false if compared with a genuine bill.⁴⁸

⁴⁷ The same item is also found in the *Pensylvanische Berichte*, Dec. 16, 1749, p. 3.

⁴⁸ The *Pensylvanische Berichte*, Dec. 16, 1749, pp. 2-3.



GENUINE SPANISH MILLED DOLLAR
1741



ALTERED PENNSYLVANIA ONE SHILLING NOTE
(Courtesy of Lancaster County Court of Quarter Sessions)

VI

THE YEARS 1750-1759

In *The Pennsylvania Gazette* of November 15, 1750, appeared the following notice: "The Public are caution'd to beware of new Counterfeit *Half-Crown* Bills. They are of the Year 1744, and may be distinguish'd, by observing that they are struck from a Copper Plate; whereas the true Bills are done with common Printing Letters. In the Motto of the Coat of Arms the Word JUSTICE is spelt JNSRICE. And in the Word *Province*, the r stands close under the Bow of the P. They are supposed to be brought from Germany."¹

Ten days later the public were warned to be on guard against counterfeit ninepenny bills, dated 1749 and struck from a copperplate, whereas the true bills were done with common printing letters. In the motto of the coat of arms the word JUSTICE was spelled JNSTICE, and in the word *pass*, there was almost room enough to insert another letter between the p and a.²

In January, 1751, a man who went by the name of John Jones, "supposed to be a Coiner, and an Out-law of Virginia, for whom 'tis thought a considerable Reward was offered by that Government some Time ago," was discovered in a haystack and committed to prison.³ The Virginian for whom John Jones was taken was one of the brothers of Low Jackson, a silversmith of Nansemond County, who had been indicted for counterfeiting Spanish double doubloons.⁴

The Pennsylvania authorities, towards the close of the year 1750, discovered a band of coiners, some of whom were Quakers. John Smith, in his diary, which is preserved in the Ridgway Library,

¹ The same appeared in German in the *Pensylvanische Berichte*, Dec. 16, 1750, p. 2.

² *The Pennsylvania Gazette*, Dec. 25, 1750, p. 2 and the *Pensylvanische Berichte*, Jan. 1, 1751, p. 2.

³ *The Pennsylvania Gazette*, Jan. 22, 1751, p. 2.

⁴ Kenneth Scott, "Counterfeiting in Colonial Virginia," *The Virginia Magazine of History and Biography*, lxi (1953), pp. 5-10.

under the date of 20th 10th mo. 1750, wrote: "Anthony Benezet and I visited Samuel Jackson in person to deal with him for being concerned in Counterfeiting Cobs & Dollars &c.:" Smith's Letter Book, in The Historical Society of Pennsylvania, reveals that on the 1st mo. 27, 1751, he wrote to Edward Cathrall of Dublin: "We have had (Friends I mean) a great deal of trouble since thou left us, on account of some of our members being charged with some concern in Counterfeiting Spanish Money. They are to have their Tryals the beginning of next month when tis probable it will be known how far they are Guilty Therein."

Another of the gang appears to have been named Whitmore, for *The Pennsylvania Journal, or Weekly Advertiser* of February 19, 1751, reported: "Wednesday last, one *Whitmore*, who lives near to Lancaster, and a Negroe Man, was committed to Prison for Coining and uttering several false Pieces of Eight." Two accomplices, Christopher Marshall and John Eastburne were indicted at the April, 1751, term of the Supreme Court "for aiding" and put on trial. One of the jurors, however, becoming dangerously ill, left the jury before a verdict was reached, so the case was continued for trial the next term.⁵ On the first of the third month Smith wrote to Cathrall that Marshall and Jackson had been tried but that no verdict had been rendered; and on May 18, 1751, James Logan, Jr., wrote to John Smith: "We have been much surprised to find you have had money Coiners belong to your Monthly Meeting."⁶

At the same April, 1751, term of the Supreme Court Christopher Marshall, Samuel Jackson, Benjamin Whitmore and John Eastburn (or Eastburne) were indicted "for a Conspiracy &c.," and the witnesses for the King were recorded as B. Whitmore, Jno. Eastburne, Philip Syng, Jr., Jno. Conrad Sweighausen, Jr., Samuel Golden, James Read, John Levi . . . , one Clarkson, Benjamin Betterton,

⁵ Ms. Minutes of the Supreme Court, Appearance Docket, Sept., 1740–Sept., 1751, p. 366.

⁶ Cited by Gillingham, *Counterfeiting in Colonial Pennsylvania*, pp. 25–26.

Anthony Benezet, Samuel Howell, Israel Pemberton, Jr., William Logan, Reese Meredith, and Robert Towers.⁷

The coiners were tried at the Supreme Court at the April, 1752, term. Christopher Marshall was found not guilty on two indictments, but on a third the jury found that "Christopher Marshall is Guilty of a Misdemeanor in knowing of & concealing the Stamps mention'd in the Indictm^t but as to the Residue of the matters charg'd in the Indictment he is not guilty." On the same indictment the jury found Samuel Jackson guilty of the whole. On still another indictment (against Benjamin Whitmore and Samuel Jackson) Jackson was found "guilty of counterfeiting the Spanish Pistoles mention'd in the Indictm^t in manner & form." On a third indictment the jury said that "Samuel Jackson is guilty of receiving the false Pieces of Eight ment^d in the Indictm^t and thereby aiding, & abetting Benjamin Whitmore, in manner and Form." The sentences imposed on April 20 were as follows: Jackson was to stand one hour in the pillory on the coming Saturday, pay a fine of fifty pounds, be imprisoned for four months and give security for his good behavior for twelve months, himself in the amount of £100 and two others in the amount of £50 each. Marshall was to be imprisoned for two months in the Philadelphia jail, to pay a fine of fifty pounds and to give security for his good behavior for twelve months, himself in the amount of £100 and two others in the amount of £50 each.⁸

At a meeting of the Common Council of Philadelphia on November 17, 1752, a petition from Samuel Jackson was read. He set forth that he had received the corporal punishment and suffered imprisonment for his crime of having counterfeited Spanish pistoles but that he was unable to pay the fine of £50 to the Corporation. As he had several small children depending on him for their support, he prayed that the fine might be remitted. The council, considering his poverty,

⁷ Ms. Minutes of the Supreme Court, Appearance Docket, Sept., 1740-Sept., 1751, p. 366.

⁸ Ms. Minutes of the Supreme Court, Appearance Docket, April, 1752-1758, pp. 14, 15, and 23.

agreed to take his bond for the sum and to discharge him on condition that he immediately leave the province.⁹

John Eastburn, at the April, 1752, term of the Supreme Court, was required to give security for his appearance at the September term of the same court, himself in the amount of £500 and David Clarke in the sum of £250. He duly appeared, and, on October 18, 1752, was discharged, after paying costs of prosecution and furnishing security for his good behavior for twelve months, himself in the amount of £100 and each of two other persons in the amount of £100.¹⁰

In February, 1751, the public was cautioned to beware of hammered, unmilled counterfeit pieces of eight. They seemed to have been cast in sand and then hammered smooth towards the sides, though the ground within the figured part appeared rough. Outwardly they had the complexion of silver, but, if part of the coin were scraped and then rubbed on the short hair of the head, the copperish color would begin to appear.¹¹

The maker of these pieces of eight was soon discovered, for *The Pennsylvania Gazette* of June 20, 1751, printed the following item: "Saturday last Hercules Roney, of Horsham, Weaver, was committed to the Jail of this City, for counterfeiting *Unmilled Pieces of Eight*. They are cast, and hammer'd; are of a very dull Colour, sound very ill, and seem as if there was little or no Silver in them. And on Monday Benjamin Gilbert, a Blacksmith, was also committed, on Suspicion of having made his Tools." The same newspaper, on June 27, added further information about the false coins: "A Gentleman who has seen a Parcel of the *Mill'd Pieces of Eight*, made by Hercules

⁹ *Minutes of the Common Council of Philadelphia*, p. 561.

¹⁰ Ms. Minutes of the Supreme Court, Appearance Docket, April, 1752-1758, pp. 24. and 26.

¹¹ *The Pennsylvania Gazette*, Feb. 19, 1751, p. 2. A letter from Philadelphia dated February 19 was printed in part in *The Boston Evening Post*, March 11, 1751, p. 4. and stated that the magistrates had just detected, arrested, and examined three gangs of coiners, who for some years past had made great quantities of doubloons and dollars.

Roney, says, they are not so large as the true Ones; that on weighing them, they want Three Penny Weight, odd Grains; when scrap'd or rubb'd, appear quite Copperish; and have a shriller Sound than the genuine Pieces."

The list of prisoners in the Philadelphia jail contains among the names of criminals "Hercules Rhoney" on July 2 and October 29, 1751.¹² About a month after the last date Roney was tried. *The Pennsylvania Gazette* of December 5, 1751, printed this item: "Tuesday last Hercules Roney, of Horsham Township, Weaver, . . . was indicted at the Court of Quarter Sessions, and convicted of having counterfeited the *Unmill'd Pieces of Eight*; for which he was sentenced to stand one Hour in the Pillory on Wednesday the 18th Instant, and to be whipt Twenty-one Lashes."

During the summer of 1751 arrests for counterfeiting occurred in Bucks County. On June 14 one Margaret Thomas appeared before Alexander Graydon, apparently a justice of the peace, and was charged with uttering false pieces of eight. She was released on her recognizance in the sum of £20 and with Thomas Owen as a security in the sum of £10.¹³ She came before the Court of Quarter Sessions of Bucks County at the September term, when Joseph Hart and Alexander Graydon bore witness against her. She was indicted for passing false dollars, pleaded not guilty, and thereupon her case was continued to the December term and then again to the March, 1752, term, when she was tried, found not guilty and discharged.¹⁴

On July 29, 1751, a certain James Huston, charged with passing several false fifteen shilling New Jersey bills, was released on his own recognizance and that of his wife, Mary, in the amount of £100.¹⁵ At the September, 1751, term of the Court of Quarter Sessions of Bucks County he was indicted, pleaded not guilty and was tried.

¹² Ms. Court Papers (1715-1790) in The Historical Society of Pennsylvania under the dates mentioned above.

¹³ Ms. File of Bucks County Papers, recognizance dated June 14, 1751.

¹⁴ Ms. Criminal Docket, Bucks County, 1750-1760, September and December terms, 1751, and March term, 1752.

¹⁵ Ms. File of Bucks County Papers, recognizance dated July 29, 1751.

The King's witnesses in the case were Simon Butler and Richard Walker. The jury brought Huston in guilty, and he was sentenced to be imprisoned until October 22 and then to be put on the pillory for one hour and to pay a fine of £30.¹⁶

At this same term of the court John Beard was charged with counterfeiting money, and the witnesses against him were Lawrence Growdon and Joseph Hart. Beard was, however, more fortunate than Huston, for the jury brought in his indictment *Ignoramus*.¹⁷

It will be recalled that in November, 1750, counterfeit half crown bills were circulating, thought to be brought from Germany, and that in December, 1750, false ninepenny bills were also discovered. It turned out that both sorts had been made in Germany, as was revealed by the following item published in *The Pennsylvania Gazette* of October 17, 1751:

Last Week, at a Court of Oyer and Terminer, held in Lancaster, two Men (Father and Son) both nam'd Sigismund Hainly, were tried for counterfeiting the Halfcrown and Ninepenny Bills of this Province, found guilty, and receiv'd Sentence of Death. The following is the Substance of the Confession of the Father, which he made to several Gentlemen in Jail, after he receiv'd Sentence, viz.

That when he was last in Germany, he applied to a Person in Hamlebaugh,¹⁸ in the Principality of Fulda (whose Name he could not remember) to engrave Plates for printing the Halfcrown and Ninepenny Bills: That the Person applied to was a Printer, who accordingly printed and sign'd about Twenty Pounds of them, and deliver'd them to him: That he brought them over with him, and utter'd about Six Pounds of them: That when they were discover'd to be bad, he put the rest into a hot Oven, and consum'd them: That no Person was privy to or concern'd with him: That after he receiv'd this Quantity of bad Money from the Printer, he saw him erase the Engraving from the Plates, in order, as he supposes, to use them for other Purposes. He solemnly declares his Son's Innocence, and says, That he paid him about Twenty Shillings in false Bills, but never told him they were Counterfeits.

¹⁶ Ms. Criminal Docket, Bucks County, 1750-1760, September term, 1751.

¹⁷ *Ibid.*, September term, 1751.

¹⁸ Hamelbach.

Sometime before November 1 Hainly's (or Hänle's) wife saw the Lieutenant Governor in Philadelphia and besought him to spare her husband and son. The Lieutenant Governor, however pardoned only the son, and with that she was said to be satisfied, since she loved her son dearly.¹⁹ Her husband was hanged in Lancaster early in November, and Christopher Sauer commented in his newspaper: "Not all are hanged who deal falsely with their neighbors but judgment is spared until eternity for them, who leave the world without repentance or change of heart."²⁰

Before long another counterfeiter was apprehended. "Saturday last," reported *The Pennsylvania Gazette* of February 11, 1752, "one William Kerr was committed to the Jail of this City, on Suspicion of having counterfeited the Mill'd Pieces of Eight. There were several bad Ones found upon him, and a Receipt for the mixing of Metals. He pretends to be a Weaver, and says he lives at Bethlehem, in the Jerseys, with one William M'Cracken. The Pieces are cast in Sand, and are filed upon the Milling; they look very rough, and are more of a Lead than Silver Colour, and sound like Brass."²¹ The same paper of February 25, 1752, announced that the previous week Kerr had been indicted, tried and convicted at the Mayor's Court and had received the following sentence: "to stand in the Pillory one Hour To-morrow, to have his Ear nail'd to the same, and the Part nail'd cut off: And on Saturday next to stand another Hour in the Pillory, and to be whipt Thirty-nine Lashes, at the Cart's Tail, round two Squares; and then to pay a Fine of Fifty Pounds."

This sentence was also mentioned in the *Pensylvanische Berichte* of March 1, 1752. This German newspaper, however, added two paragraphs which read as follows:

"Daniel Müller, Edward Durry and Edward Blayster were likewise examined and declared guilty of death, and it was ordered that they be lashed tomorrow (February 26)."

¹⁹ *Pensylvanische Berichte*, Nov. 1, 1751, and *The Pennsylvania Gazette*.

²⁰ *Pensylvanische Berichte*, Nov. 16, 1751, p. 2.

²¹ The same account is found in the *Pensylvanische Berichte*, Feb. 16, 1752, p. 3.

"The above mentioned William Kerr thought to save his ear and discovered three others who shared with him in making dollars; hence he has not yet been punished. The other three however received their lashes on Wednesday, February 26."

From the above it would appear that Müller, Durry and Blayster were probably the accomplices denounced by Kerr to save his ear. Kerr finally stood in the pillory on a Saturday late in October and was whipped at the cart's tail round two squares.²²

At a meeting of the Common Council of Philadelphia on November 17, 1752, a petition from Kerr was read. He was in prison, for he had been unable to pay his fine of £50, since he was "afflicted wth sickness and reduced to great Poverty." He therefore prayed that the fine might be remitted. The Council was informed that he was really unable to pay the sum but that there was a "Charge against him in the Jerseys of a high Nature, which the detaining him here prevents his being called to Account for." It was thereupon referred to the recorder, if he should see cause to deliver Kerr to the Jersey officers.²³

An item in *The Pennsylvania Gazette* of June 4, 1752, revealed that on the preceding Tuesday a certain Francis Huff was indicted at the Court of Quarter Sessions of Philadelphia County for uttering counterfeit milled pieces of eight. He was convicted and sentenced to stand an hour in the pillory on the next Saturday and to be whipped twenty-one lashes.

Another person, a talented silversmith from Rhode Island, Gideon Casey, was arrested and committed to jail in Philadelphia during the first few days of August, 1752, on the charge of having passed counterfeit doubloons. In October he was tried at the Mayor's Court, convicted, and received the extremely light sentence of a fine of £50. without corporal punishment.²⁴ The fact that he got off so easily may have encouraged Casey, for he continued in his evil ways. He

²² *The Pennsylvania Gazette*, Oct. 26, 1752, p. 2.

²³ *Minutes of the Common Council of Philadelphia*, p. 560.

²⁴ *The Pennsylvania Gazette*, Aug. 6, 1752, p. 2 and October 26, 1752, p. 2; the *Pennsylvanische Berichte*, Aug. 16, 1752, p. 2 and Nov. 1, 1752, p. 2.

was later arrested in New York for counterfeiting and passing but was not convicted because of some legal technicality.²⁵

At the beginning of October a one shilling New Jersey bill, altered to six shillings, was passed in New York. The word *one* had been cut out and the word *six* put in, while the other parts of the bill had been so defaced that the deceit could not be detected at first glance but only upon close examination. The public was warned to be on guard against such altered bills.²⁶

At the beginning of the year 1753 counterfeit cased doubloons were said to be circulating in Philadelphia. The inside was of silver, plated over with gold, and so well executed that they might readily pass with persons not familiar with genuine ones. The color and impression were good, and the best way of detecting them was to remark their uncommon thickness around the edges. It was reported that double pistoles, done in the same manner, were also passing.²⁷

In York County at the April term of the Court of Quarter Sessions a certain Michael Linch was indicted for uttering one counterfeit piece of eight. He pleaded not guilty, and his case was continued to the July Session and then to the October term, 1753, next to the January, April, July and October terms of 1754, when his case disappears from the minutes of the court. It is probable that there was merely no prosecution. He had been released after his indictment on bail of £40.²⁸

The Pennsylvania Gazette of May 3, 1753, cautioned its readers to beware of false twenty shilling Pennsylvania bills, exceedingly well done with a pen, which might easily pass with other money to persons not warned about them.²⁹ The same newspaper on October 25, 1753,

²⁵ Kenneth Scott, "Gideon Casey, Rhode Island Silversmith and Counterfeiter," *Rhode Island History*, XII (1953), pp. 50-54.

²⁶ *The Pennsylvania Gazette*, Oct. 12, 1752, p. 2 and the *Pensylvanische Berichte*, Nov. 1, 1752, p. 2.

²⁷ *The Pennsylvania Gazette*, June 2, 1753, p. 2.

²⁸ Ms. General Quarter Sessions Docket No. 3, 1752-1754, York County, pp. 11, 12, 17, 41 and Docket No. 4, July term, 1753.

²⁹ The same notice appeared in German in the *Pensylvanische Berichte*, May 16, 1753, p. 3.

warned of "Counterfeit New-Castle Ten Shilling Bills, in Imitation of those dated the 28th of Feb. 1746. — — — — Besides that the Counterfeits are struck off from an engraved Copper-Plate, and the true Bills from common Types or Printing Letters, the former may be known by these Marks. In the first Word, THIS, the S is made too tall in Proportion to the other Letters; the Letters of the Word INDENTED (except the I) are made leaning a little forward, which in the true Bills are upright; and in the Arms, the Word DROIT is made DPOIT. On the Back, the Word *Counterfeit* is spelt thus, *Couuterfeit*. There is Reason to believe these Counterfeits are imported from Germany. People are therefore desired to observe Carefully what Money they receive from the New-comers or Newlanders, or their Acquaintance; a great Reward will be paid to him that shall discover the Importer."

The following month the public in Philadelphia was warned about counterfeit English halfpence, whose circulation in New York City had led to a riot there and had caused virtual panic among the population.³⁰ The notice printed in *The Pennsylvania Gazette* of November 15, 1753, read:

Our Readers are cautioned to beware of counterfeit *English Halfpence*, great Quantities of which we understand are lately imported. They are of all Kings and Years from King William downwards; but besides being of base Metal, they are much lighter than the true Ones. They may be known by their Colour, Thinness, and Roughness, occasioned by their being cast in Sand. 'Tis said that above *Forty Thousand Pounds Sterling* in such *Halfpence*, have been lately made in *England*; but their Currency being now stopt at home, some evil-minded Persons are buying them up to send to the Plantations. The other Provinces are already on their Guard, and 'tis hoped our People will likewise be too prudent to give them a Currency; since if they can be passed here, our Silver and Gold, to an equal Value, will be carried off in Exchange for them, to the Ruin of the poorer Sort, in whose Hands they must at last sink; since all Merchants and knowing Dealers, will absolutely refuse them.

³⁰ Kenneth Scott, *Counterfeiting in Colonial New York*, pp. 102–109.

This timely caution may have had something to do with the fact that Philadelphia did not suffer from these counterfeits.

Early in December it was reported that two Germans had been arrested. One of them, Jacob Greator, was convicted, according to a notice from Reading, of having offered in payment a counterfeit piece in the likeness of a caroline; for this crime he received the extremely light sentence of a fine of £5 and imprisonment for one month.³¹ The other German was a certain Daniel Jeffron, a New-lander, who was apprehended the first Friday in December for passing counterfeit Maryland ten shilling bills, of which some one thousand, all numbered 4452 but not all signed, were found in his chest. The engraving was not as neat as in the true bills and the word *Maryland* (apparently a watermark) was wanting in the paper. The money, Jeffron stated at first, was made in Germany but later said he had purchased it in Amsterdam of a man who made it his business to counterfeit paper currencies. He had lived for some years near Frederickstown in Maryland.³² About the middle of February, 1754, he was tried at the Mayor's Court in Philadelphia and convicted on two indictments for passing false Maryland ten shilling bills. He was sentenced to be whipped twice, then to stand one hour in the pillory, to have the tip of his right ear nailed to it and to have the part nailed cut off. The sentence was carried out on the Saturday after the judgment was pronounced.³³

³¹ *The Pennsylvania Gazette*, Dec. 6, 1753, p. 2.

³² *Ibid.*, Dec. 6, 1753, p. 2; *The Pennsylvania Journal, or Weekly Advertiser*, Dec. 6, 1753, p. 3; *The Maryland Gazette*, Dec. 20, 1753, p. 2. At a meeting of the Maryland Council on December 12, 1753, it was represented by the Commissioners of the Paper Currency Office that a certain "Lewis Desharoone" had been recently apprehended at Philadelphia for counterfeiting and uttering large quantities of Maryland bills. The council then advised Governor Horatio Sharpe to write to Governor Hamilton requesting that Desharoone, after his trial in Pennsylvania, might be delivered to an officer from Maryland that he might be brought to Maryland to be proceeded against according to law (*Maryland Archives* XXXI, pp. 20-21). From the date and all the circumstances it is clear that Lewis Desharoone was none other than Daniel Jeffron and that the Commissioners of the Paper Money Office had been misinformed as to the name.

³³ *The Pennsylvania Gazette*, Feb. 19, 1754, p. 2.

Jeffron claimed that he had come in the summer of 1753 from Amsterdam to Broad Bay in New England with a woman confederate. She intended, he said, to go to Boston a short time after he left her, and he thought it probable that she would offer some of the counterfeits there to persons who traded with Maryland.³⁴ Nothing more is known of the woman, but Jeffron, after suffering punishment in Philadelphia, was brought down to Annapolis the second week in April and there committed to prison.³⁵

In Maryland Jeffron must have been released without any punishment. The reason is found in the following letter written on May 11, 1754, by Governor Sharpe to Calvert, in which he stated: "My proposing an Act for the Support of the Currency of the neighbouring Colonies was occasioned by a Person's being lately convicted in Philadelphia for uttering counterfeit paper Currency of this Province, for which (tho a vast quantity of Bills were found in his possession) He escaped with a light punishment in comparison to what his Offence deserved: for want of such a Law as I have recommended He could be only punished by them as a Cheat; as the Crime was committed out of this Province (tho we must be much affected by such Offences) we could not take Cognizance at all of the fact of which he was accused."³⁶

Governor Sharpe's suggestion met with favor in the eyes of the Maryland legislators, and in 1754 a law was passed making it penal to counterfeit bills of Pennsylvania, New York, the Jerseys and the three lower counties on Delaware, or knowingly to pass such counterfeits. The law was to be in force for three years, and in May, 1758, the act was continued for three years and was extended to cover also the bills of Virginia. It expired on April 24, 1762.³⁷

At the August term of the Court of Quarter Sessions of Lancaster County Robert Duncan, yeoman, of "Salsberry" Township, was in-

³⁴ *The Boston Weekly News-Letter*, Jan. 3, 1754, p. 2.

³⁵ *The Maryland Gazette*, April 11, 1754, p. 3.

³⁶ *Maryland Archives*, VI, pp. 65-66.

³⁷ *The Laws of Maryland* (Annapolis: Jonas Green, 1765) 1754, ch. iv; 1758, ch. iii; *The Maryland Gazette*, May 18, 1758, p. 3.

dicted for a misdemeanor in having passed two false doubloons, made of brass and other mixed metals, to a certain William Langrell (or Langsall). The witnesses against Duncan were Langrell and one James Smith. Langrell, who had formerly lived in Dorset County, Maryland, made deposition before Justice Thomas Clark that he had received the two counterfeit coins from a certain Robert McCormick, who swore under oath that Duncan admitted that they were the same coins he had passed to Langrell and that Duncan had offered him, McCormick, either goods or money to get them back. At the August term Duncan was released on his own recognizance in the sum of £40 and on that of Patrick Duncan in a like amount. The case was continued to the November, 1754, term and then to the February, 1755, term, when it disappears from the records of the court.³⁸

Before the end of August, 1754, one William Shremer must have been tried and convicted at the Mayor's Court in Philadelphia of passing a New Jersey fifteen shilling bill. As part, or possibly all, of his punishment he was to pay a fine of £15. In any event, on August 31, 1754, his petition was read at a meeting of the Common Council of Philadelphia. In it he alledged that he had received the bill as genuine from a person unknown and that he was altogether unable to pay the fine. The Council out of consideration for his poverty, remitted ten pounds of the fine.³⁹

In March, 1755, the public was warned to beware of counterfeit milled pieces of eight then passing. They were exceedingly well done, were dated 1754, but could be easily discovered because they had PHILIP instead of FERDINAND on them; when they were rubbed a little, the base metal would appear.⁴⁰ Perhaps those concerned in

³⁸ Ms. Lancaster County Road Docket 2, 1742-1760, p. 208; Ms. Indictments File, Lancaster County, 1754-1759, August term, 1754, indictment of "Robert Dunkin"; Ms. Criminal Papers File, Lancaster County, 1745-1755, depositions of William Langrell (or Langsall) and of Robert McCormick and recognizance of Robert and Patrick Duncan.

³⁹ *Minutes of the Common Council of Philadelphia*, p. 576.

⁴⁰ *The Pennsylvania Gazette*, March 11, 1755, p. 2 and the *Pensylvanische Berichte*, March 16, 1755, p. 3.

putting out the false dollars were Matthew Berry and Dennis Connell, yeomen, who were presented twice at the Court of Quarter Sessions of Lancaster County, once for having on June 30 passed one counterfeit piece of eight to Jacob Heller and again for having on the same date in the township of Leacock passed one false piece of eight to Jacob Yoner. Yoner and Heller were evidences for the King on both indictments.⁴¹ At the August term of the court Berry and Connell pleaded not guilty to both indictments, were tried and convicted. On the first presentment they were sentenced each to receive eight lashes at the public whipping post on the next day, August 8, 1755, between the hours of nine and twelve, and to pay the costs of prosecution; on the second indictment each was sentenced to receive seven lashes on the bare back and to pay costs of prosecution.⁴²

According to *The Maryland Gazette* of September 25, 1755, a man was then in prison in Frederick County awaiting trial at the approaching assizes there for having counterfeited the ten shilling Pennsylvania bills dated August 10, 1739. "The Counterfeits," stated the paper, "are most wretchedly done, and are very unlike the true Bills; the Crest on the Coat of Arms, looks more like an *Owl* than a *Demi-Lion*; the two Flowers, one on each Side of the Coat of Arms, in the false Bill, look more like Apple-Dumplings than *Crowns*; the false Bills are pasted on the Back to conceal the Rose Leaf and Sage Leaf, and the Words, *To Counterfeit is DEATH*. In short, the whole is so badly done, that the Fraud may be discovered with half an Eye; notwithstanding which, several Persons in this Province have been imposed on with them, and the Intent of publishing this, is, to prevent further Impositions of the Sort."

The *Pensylvanische Berichte* of Germantown on August 1, 1756, noted that more New York money than ever before was being offered in Pennsylvania, and the public was cautioned to beware of counterfeit New York bills, especially those dated March 25, 1755, false bills which the New Yorkers themselves could not readily detect.

⁴¹ Ms. Indictments File, Lancaster County, 1745-1759.

⁴² Ms. Lancaster County Road Docket 2, 1742-1760, p. 236.

The newspaper added that a law had been made in New York imposing the penalty of death on all convicted of being concerned in the forging or passing of such bills.

On November 4, 1756, *The Pennsylvania Gazette* warned of false Maryland twenty shilling bills which had recently appeared in Philadelphia. "The Utterers of them," continued the account, "have cut off the Signers Names from a true small bill, with the Figures 48, and pasted them nicely to their Counterfeit Bills, upon a thin Piece of Paper. Tho' there have none but Twenty Shilling Bills of that kind been seen hitherto, yet it is probable that all the Bills of a high Denomination are counterfeited in the same Manner; but after this Notice may be easily discovered.

"There are Counterfeit FIVE SHILLING Bills of the same Money also passing at present, not pasted as the above, but the Signers Names all done, it is thought, by one Hand, and the Plate very badly engraved."⁴³

The same newspaper on November 25, 1756, printed a warning that false ten shilling New Castle bills, done from copperplate, dated 1746 and having in the arms DPOIT instead of DROIT, had again appeared. They were the same counterfeits advertised in the paper on October 25, 1753.⁴⁴ Toward the end of November there were in circulation false Spanish dollars which could scarcely be detected because they were so well struck; when they were rubbed, however, they became somewhat redder than the good ones;⁴⁵ towards the latter part of January, 1757, they were again passing in Philadelphia.⁴⁶

The Pennsylvania Gazette of January 13, 1757, gave notice of counterfeit ten shilling Pennsylvania bills. "They are dated," it read, "August 10, 1739, and are done with Printing Letters; but the Ornaments, in general, both on the Faces and Backs of them, so ill done, that it is almost impossible to be mistaken in them. In the true

⁴³ Also found in the *Pensylvanische Berichte*, Nov. 27, 1756, p. 3; cf. *The Pennsylvania Journal, or Weekly Advertiser*, Nov. 4, 1756, p. 2.

⁴⁴ See also the *Pensylvanische Berichte*, Nov. 27, 1756, p. 3.

⁴⁵ *Pensylvanische Berichte*, Nov. 27, 1756, p. 3.

⁴⁶ *Ibid.*, Jan. 22, 1757, p. 3.

Bills the Words TWO CROWNS, are neatly cut at the Bottom of the Faces of the Bills, but in the Counterfeits they are made TWO CROWES."⁴⁷ These same false ten shilling bills made their appearance again in July.⁴⁸

Some light is thrown upon the counterfeiters or passers of these bills by the following item which was inserted in *The Pennsylvania Gazette* of August 11, 1757, by John Stockton, a leading citizen of Princeton. It read:

Whereas sometime in the Month of March past, two Men, who said they lived at Lancaster, in the Province of Pennsylvania, came on Horseback, with Packs of Linen and some other dry Goods, to Prince-town, in the Province of New Jersey, and offering to pass several Ten Shilling Bills of Credit, of the Pennsylvania Impression, to Persons in the said Town, the said Bills were suspected to be Counterfeit, and the Subscriber hereof (a Magistrate of the County of Somerset) was thereupon applied to, who on inspecting the said Bills did judge that they were Counterfeit; and thereupon enquired of the said Men how they became possessed of the said Bills, they informed the said Magistrate that they had received them of a Person in Trenton, and requested to have the Liberty of going to the said Person at Trenton, in order to show their Innocency in the Matter; the said Magistrate refused them that Liberty until they offered to leave their Packs (which appeared valuable) as a Pledge for their safe Return. The said Packs being thus put in the Possession of the said Magistrate, the said two Men went off, under Pretence of going to Trenton and returning immediately, but to this Day have never returned; the said Magistrate therefore thinks it proper to make this Advertisement as publick as may be, as well to find out such Enemies to the Government as the Counterfeitters of Money are, as to inform all Persons whom it may concern, that the said Packs of Linen &c, unless they be properly redeemed, will on Thursday, the first Day of September next, at Princetown, be sold by publick Vendue, and after paying the Charge of this Advertisement, and Sale, the Surplus of the Money arising therefrom will be put in the Hands

⁴⁷ Also found in the *Pensylvanische Berichte*, Jan. 22, 1757, p. 3.

⁴⁸ *The Pennsylvania Gazette*, July 21, 1757, p. 2 and the *Pensylvanische Berichte*, July 23, 1757, p. 3.

of the Overseers of the Poor of the Western Precinct of the County of Somerset.⁴⁹

At about this time the public was likewise warned against counterfeit Maryland twenty shilling bills, dated October, 1748, and done from a very bad copperplate. In them the S in the word CRESCITE seemed to be inverted; the C next to it, in the same word, was shorter than the other letters. The whole bill, however, was so badly cut that these counterfeits must be detected at first sight, especially as the genuine Maryland bills were most beautifully engraved.⁵⁰

It was probably during the summer of 1757 that Joshua Potter and William Pettyjohn were convicted of coining. Presumably they were sentenced to stand in the pillory or to be lashed, or both, and certainly to be fined, for while in jail at Lewes they petitioned the Provincial Council for the remission of their fines. The Council on August 25, 1757, decided that they must continue in prison for some time, to be discharged later on entering as soldiers or sailors into the King's service.⁵¹

Several two shilling Pennsylvania bills, altered to ten shillings and dated January, 1756, were circulating in January, 1758.⁵² About two months later a warning was printed that counterfeited, milled pieces of eight, dated 1747 and well executed, had appeared. The letters around the pieces, however, were not so much raised as in the true coins, and the pillars were not quite so broad and long as those of the genuine pieces.⁵³ Further, on the 27 of the same month, March, Governor Horatio Sharpe of Maryland sent to Richard Peters, Secretary of Pennsylvania, the following counterfeits: 666 unsigned ten shilling Pennsylvania bills and 162 of the same which had been signed.⁵⁴ A little later, at the end of August, the public was cautioned

⁴⁹ *New Jersey Archives*, XX, pp. 124-125.

⁵⁰ *The Pennsylvania Gazette*, July 21, 1757, p. 2 and the *Pensylvanische Berichte*, July 23, 1757, p. 3.

⁵¹ *Colonial Records*, VII, p. 725.

⁵² *The Pennsylvania Gazette*, Jan. 26, 1758, p. 3.

⁵³ *Ibid.*, March 23, 1758, p. 3. and the *Pensylvanische Berichte*, April 1, 1758, p. 4.

⁵⁴ *Pennsylvania Archives*, First Series, III, p. 365.

to be on guard against counterfeit bills of another province, Virginia, which were passing in Pennsylvania. The forged bills, dated December 11, 1755, of the denomination of ten shillings, seemed to be cut on wood and very badly done both as to the ornaments and cutting of the letters, whereas the true ones were neatly ornamented and the body of the bill was done with common printing letters.⁵⁵

⁵⁵ *The Pennsylvania Gazette*, Aug. 31, 1758, p. 3.

VII

THE YEARS 1760–1769

According to a Philadelphia dispatch published in *The Boston Evening Post* of November 3, 1760, one John Bruleman, who was executed on October 8, 1760, for the murder of a Mr. Scull, had formerly been an officer in the Royal American Regiment but had been detected counterfeiting or uttering counterfeit money and had been discharged from the service. It is not clear, however, whether his counterfeiting was a recent occurrence, but that would seem probable from the account found in Weyman's *New York Gazette* of October 20, 1760, which adds that Bruleman was a silversmith by trade before he entered the army and that upon his discharge he "returned to Philadelphia, and growing insupportable to himself . . . determined upon the commission of some crime, for which he might get hang'd by the law . . ."

Late in June, 1761, the authorities in New York City arrested men believed responsible for altering New Jersey six shilling bills to six pound bills and New York two pound bills to ten pound bills. It was discovered that Ichabod Higgins, his brother John, Archilaus Lewis, Richard Cooly and Greenbury (or Newberry) Dawson had been concerned in this altering and passing of currency. When Ichabod Higgins, Lewis and Cooly were apprehended, John Higgins, a man of about thirty years of age who had been born of a good family at Alexandria, Virginia, was absent on one of his frequent trips to Philadelphia to change altered money through the Jerseys and Philadelphia.¹ On his way back to New York he was arrested at Cranbury, between Bordentown and Amboy Ferry. He was taken to New York, where he was tried and convicted at the January term, 1762, of the Supreme Court. On Friday, February 12, 1762, he died on the gallows at Fresh Water. His brother escaped from the

¹ *The Pennsylvania Journal, or Weekly Advertiser*, July 2, 1761.

jail in New York, and the fate of Lewis and Cooly is not known. Dawson apparently was never captured.²

In June or July one Samuel Griffith was apprehended on suspicion of counterfeiting and released on bail, himself in the amount of £100 and three sureties, John Keys, John Griffith and George Stevenson, each in the amount of £50. At the July term of the Court of Quarter Sessions of York County the jury returned the indictment of Samuel Griffith Ignoramus.³

At about this time there was a plague of altered bills, New Jersey six shilling bills to six pound bills and three shilling bills to three pound bills, New Castle two shilling bills to ten shilling bills. Wherever the denomination of the bill stood, the false amount was pasted on, so that, to detect the counterfeits, the people were to check the color of the notes at these spots or to look for erasures, for it was difficult for the criminal to make all the changes so that there would not be at least one place where the alteration would be visible.⁴

Counterfeit Virginia forty shilling and ten shilling bills, very badly cut (whereas the true ones were neatly done on printing letter) but with the signing pretty well imitated, were circulating in Philadelphia in January, 1762, and the public was cautioned to beware of them.⁵ Perhaps one Charles Green was concerned in the business, for at the April, 1762, term of the Court of Quarter Sessions of York County he was indicted "for a Counterfeit." When he was solemnly called, he did not appear and orders were given that he be arrested.⁶ As there is no mention of him in the minutes of the July session or later sessions of the court, it is probable that he had fled and was never taken.

Late in November the people of Philadelphia were cautioned to beware of forged New Jersey thirty shilling bills, so poorly done that they could be recognized at first sight. The true ones were neatly

² See Kenneth Scott, *Counterfeiting in Colonial New York*, pp. 110–118.

³ Ms. Quarter Sessions Docket No. 6, 1760–1762, York County, pp. 26, 31.

⁴ *Pensylvanische Berichte*, July 31, 1761, p. 3.

⁵ *The Pennsylvania Gazette*, Jan. 14, 1762, p. 3.

⁶ General Quarter Sessions Docket No. 6, 1760–1762, York County, p. 62.

made in the common printing manner, but, in the case of the counterfeits, the whole bill was extremely ill cut and the letters were very irregular and in no sort of proportion.⁷

The Pennsylvania Gazette of February 17, 1763, reiterated its warning about the New Jersey thirty shilling counterfeit bills and added that of late false three pound New Jersey bills had also appeared. "They are badly done," ran the notice, "on a Copperplate, dated April 8, 1762, and are printed in three Folds of Paper, pasted together, the Letters in the whole Bill being very irregular, and standing much out of Line; whereas the true Bills are neatly and regularly done in the common Printing Manner, and printed on two Folds of Paper. In the first Line of the Face of the Counterfeit, the O in POUNDS is shorter and thicker than the other Letters in that Word, and in the third Line the last E in JERSEY, is not like a printing E, but is made in the Manner commonly used in Writing. In short, the whole is so ill executed, that we think, after this Notice, no Body can be imposed on by them."

The counterfeiter, it appears, or one of the counterfeiters, of the three pound bill, and very likely also of the thirty shilling one, was a certain Billings. Benjamin Lightfoot in Reading, on the 2 mo. 17th. 1763, wrote to James Pemberton:

There is since I wrote thee last an ugly Affair broke out on his (Weiser's) Premises if not in his dwelling House. A New England man one Billings, who was as I have understood obliged to leave his country for Coining, was whiped out of a Regiment at Pittsburg for Coining Dollars and escaped out of Maryland from Prison and under Sentence for the like wickedness. took up his abode in Frederik Weiser's House near or about a Year ago under pretense of getting a living by Engraving and Printing and has lately uttered a number of New Jersey £3 Bills those that I have seen dated I think in 1762. He is now in Reading Goal and told a certain Magistrate he thought it hard a poor Man should suffer for a Crime in which Rich men were equally concerned with him and talked of petitioning the Governor about Something of the sort. I have ever since I heard of this strangely suspected F.W. but he may be clear for aught yet appears

⁷ *The Pennsylvania Gazette*, Nov. 25, 1762, p. 2.

against him. I have not heard particularly of any Tools being found for this Work only a Plate begun on which an Unicorn was drawn in an Escutcheon and some Embelishment round the Edges which he said he only made for diversion. The Bills I have seen appear to me to be easily discovered, The strokes in the Arms are much blacker and clumsier done than the true and the Letters very irregular and the Type not good. The Red Ink much dirtier than in the true and the Sage leaf on the back less.⁸

Connected with Billings, very likely as an accomplice, was one Herman (or Harman) Rosencrans (or Rosencrantz), who was arrested in Bucks County, probably in March, 1763, by two constables, John Kelley and William Dungan.⁹ At his examination on March 19, 1763, Rosencrans claimed that on November 6, 1762, at Tulpehocken he had sold a horse to a certain Joseph Billings for £18 in thirty shilling New Jersey bills.¹⁰ At the June term of the Court of Quarter Sessions of Bucks County the Grand Jury presented Rosencrans for a misdemeanor in passing a thirty shilling counterfeit Jersey bill to Mary Lewis and a second time for uttering a false thirty shilling Jersey bill to William Doyle. To both indictments he pleaded not guilty and was admitted to bail to appear at the September term.¹¹ At the next term, however, Rosencrans claimed that a material witness was wanting, and the case was put off to the December term. In the meantime Rosencrans was released on recognizance, himself in the sum of £400 and two sureties, Timothy Smith, Jr., and James Dyer, each in the sum of £200. At the December term he again maintained that a material witness was not present, so that once more the case was postponed, this time to March, 1764.¹² At that

⁸ Pemberton Papers, XVI, p. 58.

⁹ File of Papers of the Court of Quarter Sessions of Bucks County, March term, 1763: charges of the two constables for fetching Rosencrans.

¹⁰ File of Papers of the Court of Quarter Sessions of Bucks County, March term, 1763: examination of Rosencrans.

¹¹ Ms. Criminal Docket, Bucks County, 1760-1767, June Sessions, 1763, and file of Papers of the Court of Quarter Sessions of Bucks County, June Sessions, 1763: indictment of Rosencrans.

¹² Ms. Criminal Docket, Bucks County, 1760-1767, September and December Sessions, 1763.

term the trial was finally held, with John Craig, Mary Lewis, Joseph Kirkbride, Thomas Yeardley and Richard Lannig as witnesses, and the jury found him not guilty "in manner and form as he stands indicted."¹³ More will be heard of both Billings and Rosencrans at a later date.

Early in 1763 the counterfeiting of coin was detected. Benjamin Lightfoot on the "1 mo. 27, 1763," wrote from Reading to James Pemberton concerning Adam Wittman and Jacob Kern: "Many Men of Credit and Veracity and Estate both in and out of the Commission have reason to believe and do believe beyond a doubt that they have both been privy to and assisted in Counterfeiting and passing Spanish Milled Dollars, for which a Poor Wreck suffered alone sometime ago." In a postscript he added: "... its to that affair of the Counterfeiting &c. the Dollars, the Criminals examination & Confession which had not corruption prevented would have been taken proper notice of is in thy Cousin J.R's hands & the Stamp for making the Pieces in F. Parvins."¹⁴ The final outcome of the affair does not seem to have been recorded.

One John Blair was apprehended in May or June, 1763, in Bucks County. It seems that a certain Mary Ryan had received from Jared Nelson a five shilling bill, which consisted of only the back part of a bill, and Nelson swore the bill on Blair, who claimed that he had received twelve shillings sixpence in a Spanish dollar and the five shilling bill. Blair stated under oath that he obtained the bill of an inn-keeper in Northampton named Richard Ledrum.¹⁵ On June 11, 1763, one John Hutchinson gave evidence that Blair had offered him the five shilling bill, which he had refused on the ground that it was false, and that Blair had said that he had the bill of Richard Lathem.¹⁶ Blair was indicted at the June term of the Court of Quarter Sessions of Bucks County for a misdemeanor in passing the back part of a five

¹³ *Ibid.*, March Sessions, 1764.

¹⁴ Pemberton Papers, XVI, p. 58.

¹⁵ File of Papers of Court of Quarter Sessions of Bucks County: examinations of John Blair, the last dated June 6, 1763.

¹⁶ *Ibid.*: evidence of John Hutchinson, dated June 11, 1763.

shilling bill, and the witnesses against him were Jared Nelson, John Hutchinson and Mary Ryan. Blair pleaded not guilty and entered into recognizance to appear at the next term. At that session, in September, when Blair appeared, *certiorari* was produced, read and filed.¹⁷

In the same county it was suspected that a gang of coiners was at work, and at the December, 1763, term of the Court of Quarter Sessions Thomas and William James were indicted for coining five silver dollars and John Gilkey, Jr., was indicted for making and passing a counterfeit dollar to Archibald Finley. The witnesses for both cases were the said Finley and Michael Hayes. The cases were put off until March, 1764, and then when the three defendants were called they were not to be found.¹⁸ It is recorded that on December 5, 1763, one David James entered into recognizance to appear to testify against Thomas James of New Britain, cordwainer, for making and passing pewter dollars. On this date also John Cadwallader and Jacob Fryer gave security to appear to testify against Thomas James, as did Michael Hayes on December 10. Archibald Finley, also on December 10, furnished security for his appearance to testify against Lewis Grant, John Gilkey, Jr., and William Williams (probably a mistake for William James) for counterfeiting dollars of pewter.¹⁹ It would seem that all those charged with counterfeiting were warned or alarmed in time to flee from justice.

In 1752 John Eastburn was, as has been noted, involved with Christopher Marshall, Samuel Jackson and Benjamin Whitmore in counterfeiting and passing Spanish coin and had apparently gotten off by providing security for his good behavior for the period of one year.²⁰ He turned again to counterfeiting or, perhaps, never desisted from it, for at the January, 1764, term of the Mayor's Court in Philadelphia he was indicted for a misdemeanor in passing a forged dollar, a charge to which he pleaded not guilty. At the same term of this

¹⁷ Ms. Criminal Docket, Bucks County, 1760-1767, June and September terms, 1763.

¹⁸ *Ibid.*, December term, 1763, and March term, 1764.

¹⁹ These recognizances are in the File of Papers of the Court of Quarter Sessions of Bucks County under the date 1763.

²⁰ See p. 80.

court Benjamin Eastburn, doubtless a relative, was likewise presented by the Grand Jury for the like offense. John Eastburn, it would seem, was not admitted to bail, but Benjamin entered into recognizance to appear at the next Mayor's Court, himself in the sum of £500 and John Carver and Joseph Bolton each in the sum of £250, while John Carver furnished bail in the amount of £50 for the appearance of Samuel Carver to give evidence in the case for the King at the next session of the court.²¹ At the April term both Eastburns were tried and convicted and received the same sentence: to stand in the pillory for one hour between nine and twelve of the forenoon of Saturday, April 7, and on that day to be whipped twenty-one lashes at the public whipping post and to pay a fine of £25 and the costs of prosecution.²² John Eastburn was unable to pay his fine and petitioned the Common Council of Philadelphia to forgive him the payment. On May 28, 1764, the Council voted to have him discharged from his confinement on his giving his bond for the amount of the fine and "shipping himself out of the Country."²³

False twenty shilling Pennsylvania bills were reported to be circulating in Philadelphia in July. They were well executed, printed in italics like the genuine ones, dated May 1, 1760, and signed with the names of Charles Jones, Joseph Stretch and Charles Thompson. The paper on which they were printed was double but much thinner and whiter than that of the true bills. The counterfeits were not done from regular types, and, though they looked well at first sight, close inspection would reveal many imperfections: the letters were very ill proportioned, the lines for the most part were crooked, and Charles Thompson's name was made Charles Thonnon.²⁴

Two, at least, of the counterfeiters of these bills were on August 18, 1764, taken up and committed to jail in Elizabethtown, New Jersey. They had paid for three horses there with the false twenty shilling

²¹ Ms. Mayor's Court Dockuet, July 1759–April 1764, January Sessions, 1764.

²² *Ibid.*, April Sessions, 1764.

²³ *Minutes of the Common Council of Philadelphia*, p. 700.

²⁴ *The Pennsylvania Gazette*, July 19, 1764, p. 2.

Pennsylvania bills, dated May 1, 1760. One of the men was named John Hannah (or Hanna) and the other was Herman Rosencrans, who had been indicted at the Court of Quarter Sessions of Bucks County in 1763 for passing a false thirty shilling Jersey bill but had been acquitted at his trial in March, 1764.²⁵ Unless Rosencrans escaped from the jail of Elizabethtown, he was doubtless convicted, as Hannah was, and the sentence for each was almost certainly to stand in the pillory, to be lashed, to have one ear cropped and to pay a fine and costs. Hannah, after suffering corporal punishment, escaped from the jail, and Moses Ogden, sheriff of the borough, on November 3, 1764, offered a reward of £5 for his capture, stating that Hannah had broken out of the jail at about two o'clock that morning. He described Hannah in these terms: "an Irishman, about 6 feet and one inch high, very much pock broken, long visage, and may be easily known by a deficiency in his left ear, having been lately cropped for passing counterfeit Pennsylvania bills."²⁶

At Lancaster at the February, 1765, term of the Court of Quarter Sessions, Ann Tew, of Lancaster County, spinster, was indicted for a misdemeanor in having passed, at Lancaster, on January 20 a two shilling Pennsylvania bill altered to ten shillings to one Abraham Rinehart. The witnesses for the King were Rinehart and Michael Hubloy.²⁷ Ann pleaded not guilty, was tried and convicted. She was sentenced to stand in the pillory for one hour on March 25, between the hours of two and four in the afternoon, to have both ears cut off and nailed to the pillory, to be given thirty-one lashes at the public whipping post, and to pay a fine of £100 to the governor and also to pay costs of prosecution.²⁸

One might have thought that the severe punishment would have induced her to mend her ways, but, a year later, at the February 1766, term of the court in Lancaster, she was presented for a misdeme-

²⁵ See above p. 60 and *The Pennsylvania Gazette*, Aug. 30, 1764, p. 2.

²⁶ *The New-York Mercury*, Nov. 3, 1764.

²⁷ Ms. Indictment File of Lancaster County, 1760-1768, February Session, 1765 indictment of Ann Tew.

²⁸ Lancaster County Road Docket No. 3, p. 279.

eanor in having, "a person of bad fame and wickedly intending," on January 1, 1766, passed to a certain Wendal Gilbert a one shilling Pennsylvania bill altered to ten shillings. With the indictment is preserved the bill in question (see illustration opposite p. 77), dated June 10, 1764, and endorsed in ink on the back: "Wendal gilbert" and "Wentel Gilbert."²⁹ Ann again pleaded not guilty but, as before, was convicted and sentenced, according to law, to stand one hour in the pillory on Tuesday, March 25, between nine and twelve in the forenoon, to be whipped thirty-one lashes, to have both ears cut off and nailed to the pillory and to pay a fine of £100 and costs.³⁰

In *The Pennsylvania Gazette* of June 6, 1765, appeared the notice that counterfeit milled dollars, dated 1758, had recently been discovered in circulation. They seemed to have been cast, but the crown and pillars were badly done; in the word VNUM the M was "very blind," and on the other side the V in FERDND. VI. was scarcely to be seen. The next number of the same newspaper, dated June 13, cautioned the public to beware of false milled dollars dated 1757 and exceedingly ill done; the metal was very base, the coins looked rough, were of a leadish color and sounded like lead.

A warning appeared in *The Pennsylvania Gazette* of February 13, 1766, concerning counterfeit New Jersey thirty shilling and three pound bills. There were two emissions of the thirty shilling denomination, dated 1762 and 1764, of which the first was badly done and might be discovered from the whole face of the bill, on which the letters ran into the escutcheon. On the other hand, those dated 1764 were so well executed that they could only with difficulty be detected. In fact, the only sure mark was that on the back of the counterfeits, at the stem of the sage leaf, 30 was left out of 30 s., which appeared in the genuine ones. The false three pound bills, dated 1761, were not

²⁹ Ms. Indictment File of Lancaster County, 1760-1768, February, 1766: indictment of Ann Tew.

³⁰ Lancaster County Road Docket, February Session, 1766: *The Pennsylvania Gazette*, Feb. 20, 1766, p. 3, reported the sentence. She was tried at Quarter Sessions and not, as Gillingham, *Counterfeiting in Colonial Pennsylvania*, p. 34, writes, at a Court of Oyer and Terminer.

so well printed as the true ones; the impression of the forged notes was deeper in the paper, and in the word PLATE the P was directly over the A of APRIL, which was not the case in the genuine money. It was supposed that the counterfeits had come to New York City in one of the last vessels from England and that a large sum had already been passed in that city. One of the accomplices was said to have been arrested and to be in the jail of New York, while another, Michael Smith, had gone to New Jersey with a large sum of the false currency with which to purchase cattle.

The person in jail in New York was one John Davis, who had been arrested in Orange County, New York, with £3,500 in counterfeit Jersey bills on his person. He was tried and convicted at the Supreme Court of New York, sentenced to stand an hour in the pillory and to give security for his good behavior for one year. His accomplices, Michael Smith and William Gilliland, were apprehended and indicted but then their cases seem to have been dropped. The New Jersey counterfeits were of the three pound, thirty shilling, twelve shilling and six shilling denominations. At the same time there were detected in Philadelphia three shilling New Jersey bills altered to twelve, which possibly were also the work of Davis and his associates.³¹

The Pennsylvania Gazette of February 20, 1766, carried the following item: "Two Men (Brothers, we are told) were committed lately to Chester Gaol, for altering the Bills of Credit of this Province, viz. Two Shilling Bills into Tens, and Five Shilling Bills into Fifties; but as the Two Shilling Bills are not at all like the Tens, and much less the Fives like the Fifties, the Fives being printed all black, and the Fifties red and black, we apprehend very few can have suffered by their intended Fraud ——— A third Person, it is said, is concerned, but we have not heard of his being yet taken." Nothing further appeared in the press but it may be safely assumed that one of those suspected was James Jones, who at the August, 1766, term of the Court of Quarter Sessions of Chester County was indicted for altering

³¹ See Kenneth Scott, *Counterfeiting in Colonial New York*, pp. 121-126.

a bill of credit but was then acquitted and discharged upon payment of costs.³²

Perhaps another of those thought to be implicated in the altering of the bills was David Duncan of Marcus Hook, who in the latter part of April, 1766, was arrested and committed to jail in Philadelphia, "there being found upon him a Number of the Bills of Credit of New-Jersey, and Pennsylvania, altered from lesser to higher Denominations."³³

In Philadelphia at the Court of Quarter Sessions of Philadelphia County held in June, 1767, a certain Alice Richards was indicted for a misdemeanor in counterfeiting Virginia paper currency.³⁴ Her case was transferred to the Supreme Court of Pennsylvania, where it is found on the docket of the terms of April and September, 1768.³⁵ She was tried at the April, 1769, term of the Supreme Court on an indictment "for forging & publishing two Virginia Bills of Credit." The witnesses for the King were Mary Small, William Small, Joseph Carson, William Crisp, William Parr, E. Shippen, Nicholas Waln, Richard Footman and Isaac Jones. The verdict of the jury was "that Alice Richards is not guilty of the Misdemeanor in forging the s^d Bills of Credit but that she is guilty of passing the the same knowing them to be counterfeit." Her sentence was that she be committed to the jail of Philadelphia County for six months without bail or main-prize and that she pay the costs of prosecution.³⁶

On July 12, 1767, a man was committed to jail in Philadelphia on suspicion of altering the money bills of Pennsylvania,³⁷ and towards the end of September, 1767, a warning was printed to the effect that

³² Quarter Sessions Docket, Chester County, Book A, August Session, 1766.

³³ *The Pennsylvania Gazette*, April 24, 1766, p. 3 and *The Pennsylvania Journal, or Weekly Advertiser*, April 24, 1766.

³⁴ Ms. Philadelphia County Sessions Docket, 1766-1770, Quarter Sessions, June, 1767.

³⁵ Appearance Docket, Supreme Court of Pennsylvania, Sept., 1764 to Sept., 1768, pp. 617, 701.

³⁶ *Ibid.*, p. 53.

³⁷ *The Pennsylvania Chronicle*, July 13, 1767, p. 3.

counterfeit milled dollars were in circulation.³⁸ Such forging of foreign gold and silver was in this year the subject of legislation, for it was enacted in Pennsylvania:

That if any person or persons within this province, after the publication of this act, shall falsely forge and counterfeit any coin of gold or silver, which now is or shall be passing, or in circulation, in this province, every such person or persons so offending, and being thereof lawfully convicted, shall suffer death, without the benefit of clergy; and every person or persons, who shall pay, or tender in payment, any such forged and counterfeit coin of gold or silver, knowing the same to be so forged and counterfeited, and being thereof convicted in any court of record in this province, such person or persons shall be sentenced to the pillory for the space of one hour, and to have both his or her ears cut off, and nailed to the pillory, and be publicly whipped, on his or her bare back, with twenty-one lashes, well laid on; and, moreover, every such offender shall forfeit the sum of one hundred pounds, lawful money of this province, one half to the use of the Governor, and the other half to the discoverer, with costs and charges of prosecution.³⁹

At the Court of Quarter Sessions of Cumberland County held in January, 1768, one John Anderson was indicted for a misdemeanor in counterfeiting and uttering bad silver money and halfpence. He pleaded not guilty but was convicted and the following sentence was given: "that John Anderson be whipped at the public Whipping Post with twenty one lashes on the twenty second Instant on his bare Back & on the twenty ninth Instant be again whipped with twenty one Lashes at the public Whipping Post between the Hours of twelve and two in the afternoon of the same Day & stand in the Pillory for the Space of two Hours at the same Time, pay the costs of Prosecution, give Security himself in £200 & two good Sureties in £100 each for his Good Behaviour for one Year & stand committed till this

³⁸ *Ibid.*, Sept. 28, 1767, p. 2.

³⁹ *The Laws of the Commonwealth of Pennsylvania* (Philadelphia: Hall and Sellers, 1797), I, p. 477; *The Acts of Assembly of the Province of Pennsylvania* (Philadelphia: Hall and Sellers, 1775), p. 477; James T. Mitchell and Henry Flanders, *The Statutes at Large of Pennsylvania 1682 to 1801* (Philadelphia: Clarence M. Busch, 1896) VII, p. 91, act passed February 21, 1767.

Judgment be complied with." Anderson's two sureties were Torgneis West and Thomas Holmes.⁴⁰

The following month, at the Court of Quarter Sessions of Lancaster County, one George Doubenhour was indicted for uttering a counterfeit ten shilling bill,⁴¹ but there is no further record of the case. There may have been no prosecution because he had fled or because the evidence was not deemed strong enough for conviction.

The Pennsylvania Gazette of March 3, 1768, reported that attempts had been made in Philadelphia to pass Maryland bills of the denomination of the sixth part of a dollar, altered to six dollars. They were so poorly done that they might be discovered at first sight: the word *One*, the letters *th* in *Sixth*, and the words *of a* were erased all over the bill; the letter *S* was pasted to the word *Dollar* to make it pass for *Dollars*, while on the back of the bill, in the words *equal to gd. Sterling*, there was an unintelligible mark for 27 s.

These Maryland bills, New Jersey one shilling bills altered to fifteen shillings, and Pennsylvania one shilling bills altered to ten shillings were mentioned as being in circulation by *The Pennsylvania Journal, or General Advertiser* of March 10, 1768. The same newspaper of June 23 gave the following detailed description of the altered Pennsylvania money: "The Public are cautioned to beware of counterfeit Ten Shilling Bills. They are counterfeited on Pennsylvania One Shilling Bills, the *One Shilling* being cut out and a Piece very artfully pasted in the Room, *Ten Shillings*, and in the Body of the Bill, the Word *One* is taken out and *Ten* pasted in the Room of it. ——— The *One Shilling* at the Bottom of some of them is scratched out, in others the Word *Ten* is pasted in the Room of *One*. They may be readily detected, as the genuine Ten Shilling Bill has the arms in the center of it, and in the One Shilling Bills the Arms are on the left Side near the Bottom."⁴²

⁴⁰ Ms. Quarter Sessions Docket 3, Cumberland County, 1765-1772, p. 122.

⁴¹ Lancaster County Road Docket No. 3, p. 188, February, 1768.

⁴² The same general notice is given in *The Pennsylvania Gazette*, June 23, 1768, p. 3; cf. *The Pennsylvania Chronicle*, June 27, 1768, p. 6.

On March 9, 1768, a man was committed to the Philadelphia jail on suspicion of counterfeiting and passing several five pound Pennsylvania bills, dated May 1, 1760, and signed T. Tilbury, Jos. King and T. Gordon. The counterfeits were very badly done and much rubbed; the paper on which they were printed was much thinner than that of the genuine bills, and on the back whited brown paper was pasted.⁴³

Some two weeks later it was reported that forged Pennsylvania twenty shilling bills, dated August 10, 1739, had lately been discovered. The whole of the bill, with the ornaments, was exceedingly well done, with a pen as it was believed. The words TWENTY SHILLINGS seemed made with a different sort of ink from the rest of the bill and looked fresher. The signing was well imitated, and the bills looked old and a good deal rubbed, as if they had gone through many hands.⁴⁴

Counterfeit eight dollar Maryland bills were also circulating in June. They were not done with printing types, as were the true bills; the letters were not so regular, and the arms and ornaments were not so neatly finished; they were printed on double paper but the true bills on single paper. The whole bill was rather well imitated but might be easily discovered on a little inspection.⁴⁵

Late in 1769 counterfeit New Jersey bills made their appearance. Those of the denomination of twelve shillings, dated June 22, 1756, were done with common printing types; the arms were badly cut and also the sage leaf on the back; the face and back of the bills were printed on two pieces of paper pasted together, not so thick as the genuine bills; the counterfeits were much soiled to prevent their being detected; the number and signers' names seemed to be written with the same ink and by the same hand; they seemed to be done lately, but the names were not intelligible.⁴⁶

The other denomination of New Jersey bills being counterfeited was that of three pounds, dated April 16, 1764. Their description was

⁴³ *The Pennsylvania Gazette*, March 10, 1768, p. 2; *The Pennsylvania Journal, or General Advertiser*, March 10, 1768; *The Pennsylvania Chronicle*, March 14, 1768, p. 7.

⁴⁴ *The Pennsylvania Gazette*, March 24, 1768, p. 3.

⁴⁵ *Ibid.*, June 2, 1768, p. 3 and *The Pennsylvania Chronicle*, June 6, 1768, p. 6.

⁴⁶ *The Pennsylvania Gazette*, Nov. 16, 1769, p. 3.

given by the newspapers in these words: "They are very badly cut, and stamped; the Letters most irregular, and in general much larger than the true Bills; the Arms, and other Ornaments ill done, and appear very pale: The Three POUNDS, at the Top of the Bill, are placed at a greater Distance from the Left-hand Ornament, than in the true Ones. The A in the Word April, remarkably large, and the THREE POUNDS, at the Bottom of the Bill, considerably larger than in the true Bills. There are two Sorts of them, but both so badly done, that they may easily be detected, after this Notice. The Backs appear to be done with a Pen, and the Word *Woodbridge*, in some of them, is spelt *Woodbrige*."⁴⁷

On December 16, 1769, a person involved in this counterfeiting was apprehended in Philadelphia. The earliest newspaper account of his arrest reads thus:

Last Saturday Night was committed to the Gaol of this City, on Suspicion of counterfeiting Paper Money, a Low-Dutchman, who goes by the Name of Rosey Grant; he is about 60 Years old, rather corpulent, about 5 Feet 10 Inches high, says that he was born in New York Government, and that he lived some Time in Esopus. He was detected by Robert Taggart, a Shopkeeper in Market Street, whom he endeavoured to deceive, in the Dusk of the Evening. The Bill not appearing regularly printed, Mr. Taggart went and showed it to several Gentlemen, who also doubted the Legality of the Bill; but when he returned to his Shop, the Man was gone, and had left the Goods behind him. Mr. Taggart immediately searched after him in several Taverns, and at last found him in one in Strawberry Alley. Upon searching him, 68 Three Pounds Bills were found in his Breeches.⁴⁸

The Pennsylvania Gazette of December 21, 1769, gave the notice of Grant's arrest, noted that his sixty-eight bills of three pounds each were dated March 1, 1769, and were in general badly engraved on copperplate, whereas the true ones were done with common printing types; the letters were very irregular; both the back and face of the

⁴⁷ *Ibid.*, Dec. 7, 1769, p. 3; *The Pennsylvania Journal, or General Advertiser*, Dec. 7, 1769; *The Pennsylvania Chronicle*, Dec. 11, 1769, p. 7.

⁴⁸ *The Pennsylvania Chronicle, and Universal Advertiser*, Dec. 18, 1769, p. 6.

counterfeits were blacker than the genuine bills; the signers' names and the number were all written with the same very pale ink and seemed done by the same hand; the paper was thinner, smoother and whiter than the true bills.⁴⁹

At the same time a different type of New Jersey three pound bills, dated April 23, 1761, appeared and were described as follows in the newspapers: "They appear to be very badly done with common printing Types, the Impression Stronger in the Paper, and not so beautiful in Colour as the true Bills; the Arms and Ornaments appear very blind in the Counterfeits; the Word *Eight* in the Face of the Bill is made *Eight*, and the P in the Word PLATE, is right over the A in the Word *April*, which is not so in the genuine Bills; on the Back of the Counterfeits, the Paper is whiter than the true Ones. They are the same as advertised in February, 1766, and by observing the above Description of them they may readily be detected."⁵⁰

It had been discovered by December 28, 1769, that the name "Rosey Grant," was only an alias of Herman (or Harman) Rosencrans (or Rosencrantz),⁵¹ who had twice before been involved with the law because of counterfeiting.⁵² He was indicted at a Court of Oyer and Terminer held in Philadelphia in April, 1770, for uttering counterfeit three pound Pennsylvania bills. He pleaded guilty, was sentenced to die and was executed in Philadelphia early in April, 1770.⁵³

Another person connected with the forgery of Pennsylvania three pound bills was taken up on December 30, 1769. His name was given as Edward Moran, of Carlisle, in Cumberland County, where he was committed to jail for signing and passing counterfeit three pound bills.⁵⁴

⁴⁹ Cf. *The Pennsylvania Chronicle, and Universal Advertiser*, Dec. 25, 1769, p. 9; *The Pennsylvania Journal*, Dec. 21, 1769.

⁵⁰ *The Pennsylvania Gazette*, Dec. 21, 1769, p. 3; *The Pennsylvania Chronicle, and Universal Advertiser*, Dec. 25, 1769, p. 9.

⁵¹ *The Pennsylvania Gazette*, Dec. 28, 1769, p. 3.

⁵² See above, pp. 98-99, 102.

⁵³ *The Pennsylvania Gazette*, April 19, 1770, p. 3 and May 10, 1770, p. 3; *The Pennsylvania Chronicle, and Universal Advertiser*, April 16, 1770, p. 2.

⁵⁴ *The Pennsylvania Gazette*, Jan. 11, 1770, p. 3.

VIII

THE MORRISTOWN GANG

A new flood of forged bills, Pennsylvania currency of the denominations of three pounds and of thirty shillings, both dated March 1, 1769, were discovered circulating in July, 1773. They were done with printing types and were so like the true bills, that, unless they were examined very attentively, many persons might be deceived by them.¹ The authorities were justifiably alarmed, and, on July 19, 1773, Lieutenant Governor Richard Penn issued a proclamation in which he adverted to the circulation of counterfeits of these two denominations and then continued:

WHEREAS it is of the greatest Importance to the Trade and Commerce of this Province, that the Credit of all such Bills as have been emitted by Law, should be supported and preserved, and that the Forgers and Counterfeits of them should be discovered, and brought to condign and exemplary Punishment, I HAVE therefore thought fit, with the Advice of the Council, to issue this Proclamation, hereby promising and engaging, that the public Reward of FIVE HUNDRED POUNDS, shall be paid to any Person or Persons, other than the Accomplices, who shall discover the Author or Authors of the said Forgeries, so that he or they be apprehended and brought to Justice. AND I DO also hereby promise the public Reward of TWO HUNDRED AND FIFTY POUNDS, as well as His Majesty's most gracious Pardon, to any one of the Perpetrators of the said Forgeries, who shall make Discovery of one or more of his Accomplices, so that he or they be prosecuted to Conviction. AND I DO moreover hereby strictly charge, enjoin and require, all Magistrates, Sheriffs, and other Officers, as well as all other His Majesty's liege Subjects within this Province, to exert themselves, and use their utmost Endeavours, to discover and bring to Justice all Offenders in the Premises.²

¹ *The Pennsylvania Gazette*, July 14, 1773, p. 2.

² *Ibid.*, July 21, 1773, p. 2 and *Pennsylvania Archives*, I Ser., X, p. 88.

At the time that this proclamation appeared the New Jersey authorities already had information as to the identity of the counterfeiters of these bills of Pennsylvania. The last week in June two silversmiths, John Swan and Stephen Waterman, were arrested in Middlesex County, New Jersey, on suspicion of coining dollars and half joes. One of them finally made an ample confession "by which several persons in different parts appeared to be concerned with them."³ This confession and those of other coiners in Middlesex and Monmouth Counties led, as Governor Franklin stated, to the discovery of another gang of villains in Morris and Sussex Counties "who had for several years past been employed in counterfeiting and passing the Paper Currency of this and the neighbouring Colonies."⁴

The information secured by the government of New Jersey was, it seems, imparted to the Grand Jury of the Court of Quarter Sessions of Morris County then sitting in Morristown. The jury was told on July 8 that a certain Josiah Hand in Hanover Township knew the name of a person who had told him, Hand, that he had seen counterfeiting tools in the possession of a person in that neighborhood. Thereupon Samuel Ogden, a Justice of the Peace of Morris County, sent a warrant to Hand, instructing him to fill in the name of the person who had the knowledge that this person might be brought to court as a witness.⁵ For some reason the warrant was not filled out or used, but Ogden and another justice of the peace, Samuel Tuthill, apparently in consultation with Attorney General Cortland Skinner, displayed great energy in attempting to discover the counterfeiters,⁶ and their efforts were crowned with success. Indeed, the Provincial Council subsequently praised the conduct of Justice Ogden as that of "a vigilant and upright Magistrate" and expressed the opinion that it was "in a great measure owing to his Activity and

³ See Kenneth Scott, "The Middlesex Counterfeiters," *Proceedings of the New Jersey Historical Society*, LXX (1952), pp. 246-249.

⁴ Speech delivered before the House on November 12, 1773 (see *New Jersey Archives*, I Ser., XVIII, p. 396.

⁵ *Ibid.*, XVIII, pp. 414-415.

⁶ *Ibid.*, XVIII, pp. 522-523.

Zeal for the Publick Good, that a Gang of Villains, very mischevious to this and the neighboring Provinces, have been detected and some of them brought to Justice.”⁷

The leader of this gang was Samuel Ford, one of the most resolute and skillful counterfeiters of the entire Colonial Period. Samuel Ford was the son of Samuel Ford, Sr., and Sarah Baldwin, and the grandson of John Ford, who in 1721 settled in Monroe, two miles east of Morristown, on a tract of land given to him by John Budd, who desired to have the region settled.⁸ Samuel Ford, Jr., married Grace Kitchell, the daughter of Joseph Kitchell of Hanover and the sister of Squire Aaron Kitchell, who was a United States Senator from 1807 to 1811. By Grace Kitchell, Ford had four children, Betsy, Phebe, William and Samuel.⁹

Not long before 1765 Ford was engaged in the iron industry at Hibernia in company with Lord Stirling and Benjamin Cooper, a son of Daniel Cooper (one of the early judges of Morris County). The Hibernia industry, probably in 1764 or 1765, was involved in financial difficulties, and it would seem that Benjamin Cooper suggested to Ford that he counterfeit money to help them out of their financial problems. At least, in 1773, Ford wrote to Cooper: “You describe me as being the chiefest promoter and first introducer of the money making affair. Did you not in the time of our depressed circumstances at the furnace first move such a scheme to me?”¹⁰

It is not known whether Ford at that time acted on his partner’s advice. In any event, in 1765, Ford sold out his share in the Hibernia furnace and his property there to Cooper and to James Anderson, each of whom paid him £265/13/4.¹¹ With some of the proceeds he made a trip to Ireland, where he proceeded to marry an Irish girl of

⁷ *Ibid.*, XVIII, p. 818.

⁸ Andrew M. Sherman, *Historic Morristown, New Jersey* (Morristown: The Howard Publishing Company, 1905), p. 117. Sherman drew most of his material concerning Ford from Joseph F. Tuttle, *The Early History of Morris County, New Jersey* (Newark: Daily Advertiser Office, 1870), pp. 24–31.

⁹ *History of the First Presbyterian Church, Morristown, New Jersey*, Part. II, p. 77.

¹⁰ Andrew M. Sherman, *op. cit.*, pp. 118, 119, 137.

¹¹ *Ibid.*, p. 119.

some means, and with her he returned to America in 1766. The young lady, of course, then discovered that Ford already had a wife and children, so she promptly left him and is said to have married an Irishman and to have resided at Whippany, New Jersey. It is probable that Ford returned early in June, 1766, and that he imported with him counterfeit New Jersey bills made in Ireland, for on June 28 the Governor of New Jersey issued a warrant of the treasury to pay the Honorable John Stevens to send an express to warn the inhabitants of the province that a large sum of false Jersey bills had just arrived in a vessel from England.¹²

From the confessions made by Ford's accomplices in 1773 it was revealed that he had been in the business of money making for many years and that "in the year 1767, or 8, he followed it in New-York; but was apprehended on suspicion of making money, and admitted to bail, and even then set about preparing materials to renew the business...."¹³ Benjamin Cooper, when examined before Justices Ogden and Tuthill on September 24, 1773, gave a detailed and probably fairly accurate account of Ford's activities. His story was that sometime in 1767 Ford went from Hibernia to a money maker named Coon at Stony Hill. Coon had some false New York 40/ bills and some New Jersey 6/ bills with plates for striking them, and it was agreed that Coon should send the money and plates to Ford by John Cooper, Benjamin's brother. John brought about £40 of this bogus money to the home of Thomas Kinney, Esq., where Ford and his associates viewed the currency, decided it was very bad and eventually sent it all back to Coon except for a few 6/ notes which Ford kept. Early in 1768 Ford removed to New York and secured counterfeiting materials and studied the technique of making bills. He remained there at the lodging house of a Mrs. Blaw until he finally procured a house in "the back Part of the Town." He lived part of the time in this dwelling and part of the time at Mrs. Blaw's.¹⁴

¹² *Ibid.*, pp. 120-121.

¹³ *Rivington's New-York Gazetteer*, Sept. 9, 1773, p. 2.

¹⁴ *Votes and Proceedings of the New Jersey Assembly* (Burlington: Isaac Collins, 1775), p. 51 and p. 31.

At some time prior to April 18, 1769, Ford had been arrested, for on that day he appeared under recognizance before the Supreme Court in New York City, at which time his case was put over to the 21, then the 22, the 24, the 27, the 28 and finally the 29, when he appeared "and Proclamation being three times made and no Person appearing to prosecute, On Motion of M^r. Kissam Ordered that the Defendant be discharged from his Recognizance."¹⁵

He had been making 3/ and 6/ bills of New Jersey and when he was taken to jail he arranged with his brother-in-law to put away the money and tools, which Ford later told Benjamin Cooper was done by Kitchell or John Morris.¹⁶

Thus the authorities, probably because of want of sufficient evidence, allowed a most accomplished criminal to slip through their fingers and to ply his nefarious trade unmolested for several years to come. After his difficulty with the law he removed to Hanover, Morris County, New Jersey, where he resided on his farm of some one hundred and thirty acres which went by the name of the "Hammock"¹⁷ except for the trip to England in 1771, from which he returned in August, 1772.

More is to be learned about the man named Morris from a deposition made on September 24, 1773, by Bern Budd. Budd claimed that the day before Ford's arrest Ford told him that when he lived in New York he learned to carve from a woodcarver and got types from a journeyman printer, a drunken fellow, who lived with Hugh Gaine. In the same conversation Ford had boasted that he had counterfeited the 30/ and 60/ bills of Pennsylvania, the £3 bills of New York and numerous notes of New Jersey. He gave up making the £3 New York bills because the paper was so thin that he could not do a good job of imitation.¹⁸

¹⁵ Ms. Minutes Supreme Court of Judicature of New York, 1769-1772, pp. 2, 9, 10, 12, 14, 19, 21, 24.

¹⁶ *Votes and Proceedings of the New Jersey Assembly*, pp. 32-37.

¹⁷ Ms. Minutes of the Court of Common Pleas of Morris County, Bk. 5, p. 412.

¹⁸ *Votes and Proceedings of the New Jersey Assembly*, pp. 33 and 51.

¹⁹ *Ibid.*, pp. 52-53.

A hint of nervousness on the part of one of his associates may be found in the following advertisement placed in *Rivington's New-York Gazetteer* of June 10, 1773, by Samuel Haines (or Haynes) of Morristown. It read:

Twenty Pounds Reward. Whereas on Friday or Saturday the 28th or 29th of May, came to my house at Morris Town, a man of middle size, aged between 25 and 30 years, of a lively countenance, and streight hair: Had on a brown coat, striped jacket, white breches and stocking, rode a dark bay horse, says his name is Reddon, or Redmon, and that he came from Pennsylvania, with whom I chang'd a Ten Pound York bill (of the latest emission of that currency) for twenty-five dollars; the bill was marked on the back H. in one of the corners. The dollars since prove to be counterfeit, of which he had many more with him, and it is supposed will offer them to change for paper money. He enquired the road to Goshen and it is likely is gone that way. If any person or persons will apprehend and secure him in any of his Majesty's goals, so that he may be brought to condign punishment, he shall receive the above reward of Twenty Pounds, by me.

Since it was soon discovered that Haines was involved with Ford in counterfeiting, it appears not unlikely that through the advertisement Haines may have been seeking to divert suspicion from himself.

On July 16, 1773, Ford was taken into custody and imprisoned in the county jail on the green in Morristown.²⁰ The next day, Saturday, in the evening he fled, and *Rivington's New-York Gazetteer* of July 22, 1773, reported:

On Friday last was apprehended at his house at Hanover, in Morris county, the well known Samuel Ford, who had been long suspected of counterfeiting the paper currency of New-Jersey, with which he was accustomed to travel into Pennsylvania, Maryland, and other provinces, and has for several years passed the same to a very large amount, as the lawful emission of the Jersey Treasury. He went to Ireland six years, and England eighteen months ago, some time after the last emission of the New-York currency, no doubt with views of procuring dies, stamps, paper and prints, to imitate the true bills in the most plausible manner, and to

²⁰ Andrew M. Sherman, *op. cit.*, p. 127.

carry on this pernicious practice of plundering the public. He broke gaol on Saturday night being aided in his escape by one John King, a veteran in villainy and a confederate with him in this species of it. The Sheriff, at his wit's end, on occasion of this unfortunate incident has raised an hue and cry, published a description of their persons, and offered a reward of 50 l. for apprehending Ford, and 25 l. for the person of King, which, with many other particulars, will be inserted in this next week's Gazetteer.

The advertisement, which all printers were requested, as it was "a Matter of very publick Consequence," to place in their newspapers, was dated "Morris-Town, 18th July, 1773," and couched in these terms:

FIFTY POUNDS REWARD. Broke from Morris County Gaol, the noted SAMUEL FORD, accused of, and committed to Gaol for counterfeiting New-Jersey Paper Currency. He is a well built Fellow, about thirty Years of Age, five Feet ten Inches high; had on when he went away, a Nankeen Waistcoat and Breeches, a brown Coat, plain brown Thread Stockings, a good pair of Shoes, and silver twisted Buckles: It is supposed he has taken with him a suit of pale sky coloured blue Clothes, with a large silver Twist gay Button, he has short brown curled Hair, very red Cheeks, and a remarkable Dimple in his Chin. He is an artful Fellow, — with the Serious and Grave, can put on the Face of Seriousness, Religion, and Gravity, and with the Gay, can behave with as much Levity as any one. In the Year 1768, he was committed to the Gaol of the City of New-York on Suspicion of counterfeiting Jersey Paper Currency: — Since which, in the Year 1771, he has been in England and Ireland, from whence he returned in 1772 to Halifax, from thence to Boston, and so on to this Place: And from that Time to the Day of apprehending him he lived in Morris County, and made frequent Excursions to Philadelphia and New-York, upon the Business (it is supposed) of exchanging Counterfeit Money. It is suspected that one JOHN KING, late of Morris County, a square well set Fellow, about five Feet eight or nine Inches high, with short brown coloured straight Hair, full Face, and rather dark Complexion; also accused of making and counterfeiting Money; is in Company with said Ford, as he absconded at the same Time, and gave Ford Assistance in making his Escape. the said JOHN KING has been frequently within a few Years past, at Philadelphia, and Fort Augusta, and in the Year 1770 and 1771,

was at Wioming, and served under the Government of Pennsylvania, against the New-England People. Whoever takes said Ford and secures him in any of his Majesty's Gaols, so that he may be had again, shall receive the above Sum of Fifty Pounds, and all reasonable Charges: And whoever takes said KING, and brings him to me, or to the Gaoler of said County of Morris, shall receive a Reward of twenty-five Pounds, and all reasonable Charges. The above Reward shall be paid by me, THOMAS KINNEY, High Sheriff of the County of Morris.²¹

It seems, however, that Kinney himself had been largely to blame for Ford's escape. John King, formerly undersheriff of Morris County and apparently no friend of Kinney, wrote after his flight to Governor Franklin, laying charges against the high sheriff in respect to Ford's breaking jail. Kinney was given an opportunity to reply thereto, and the Provincial Council, after a careful study of all the evidence, reached the conclusion that Kinney was "blameable for negligence in his Office respecting the Escape of Samuel Ford." The Grand Jury of Morris County also indicted Kinney "for Misbehaviour respecting the said Escape."²²

Ford, and presumably also King, went to a hideout known as Smultz's Cabin in the mountains near the Hibernia furnace.²³ While the whole countryside joined in the search for the two fugitives, who were thought to be concealing themselves in caves,²⁴ a person convicted at Perth Amboy of coining dollars and half joes gave information of several others concerned. Thereupon Samuel Haynes, one Eyres (or Ayres), Benjamin Cooper, Dr. Barnaby (or Bern) Budd, Captain Joseph Morris and David Reynolds were arrested and tried at a Court of Oyer and Terminer held in Morristown. On August 14 Cooper made a partial confession, which was followed by a confession by Budd. The trial of Cooper, Budd, Haynes and Reynolds began on August 19 and they were convicted and sentenced to be hanged

²¹ *New-York Journal; or, the General Advertiser*, July 22, 1773, p. 3 and *Rivington's New-York Gazetteer*, July 29, 1773, p. 1.

²² *New Jersey Archives*, I Ser., XVIII, pp. 379-380.

²³ Andrew M. Sherman, *op. cit.*, p. 130.

²⁴ *Rivington's New-York Gazetteer*, July 29, 1773, p. 3.

on September 17. It was found that a Captain Joseph Richardson was also involved; he was arrested but escaped from the officer who had taken him. He was described as a middle-aged man, six feet one or two inches high, of fair complexion and light brown hair, well made, stout, and active. A reward of £500 was now offered for the discovery of the author of the counterfeited Pennsylvania bills.²⁵

A letter, dated Morristown, Aug. 30, 1773, and sent to James Rivington, gave the story of the trial conducted at the special Court of Oyer and Terminer. It ran as follows:

This account you would have had sooner, but it was thought (for certain reasons) prudent not to publish it until this time.

You have already mentioned in your paper that Samuel Ford and John King had escaped from goal. Their escape made it extremely difficult to discover their accomplices. The Court opened on Tuesday the 11th, and it was the Friday following before the least intimation could be got of any person concerned, when one of them, who lay under the *censure* of three convictions, the one for aiding Ford and King in their escape, and the others for high misdemeanors, on being hard pushed, and in order to mitigate his punishment for these crimes, began to make a confession, this soon alarmed another of the accomplices, who made an ample and full confession.

By which confessions, and those of the persons afterwards apprehended, these facts appeared — That Ford had been in the business of money making many years, that in the year 1767, or 8, he followed it in New-York; but was apprehended on a suspicion of making money, and admitted to bail, and even then set about preparing materials to renew the business, that he soon removed back into this county, where he again entered into it, and made a connection in Philadelphia, with a certain Captain Joseph Richardson, from whom he got a supply of types, he then attempted the New-York emission of Three Pound Bills, and made a considerable sum, but complained of the thinness of the paper, and the bad credit of the currency; at least in this and the neighbouring provinces, and gave a preference to the Jersey currency; but it is thought did little at it till the Pennsylvania emission of 1769 came out, when he with Captain Richardson

²⁵ *The Massachusetts Gazette; and the Boston Weekly News-Letter*, Sept. 9, 1773, p. 1: a dispatch from Philadelphia dated August 25.

went to Ireland, and from thence to London and the manufacturing towns, and Ford applied himself to learn the business of an engraver and type maker, and from his knowledge before in the art of carving, and an uncommon natural genius, he in the course of three months became so perfect a master of the business, that (on his return to America) he made all the types for his press, and in so masterly a manner, that the imitation of the Jersey and Pennsylvania bills, which were struck by them of Three Pounds, and Thirty Shillings is so exact that the difference cannot be discovered without the most strict examination of a person well acquainted with the true bills.

From the time of his return, till he was apprehended, he went on with uninterrupted success, and emitted large sums of the Jersey and Pennsylvania currency; but principally of the latter, for these two years past, and was the less apprehensive of being detected for the following reasons:

1st. His bills had stood the test of several treasurers examination, and had had their sanction, which he ever made an invariable rule to secure before he passed any of his new emissions.

2dly. His press and all his implements were in an almost impenetrable swamp, at a mile distance from his house, and in which the water, most part of the year, was half leg deep, so that no person could track him, and he must *crawl* on his belly some rods before he could reach it.

3dly. As no person, except King and Richardson, knew where he did work, or had ever seen the place, and these, and all others concerned, were sworn to secrecy. — He used to go to his work at day light, in the morning, with his gun, so that no person could suspect him. Ford was called the *Treasurer for the three provinces*. He signed his own bills. By direction of the Court a number of persons went into the swamp, in search of his types, &c. but found only his press, and a leather that covered the bills when they were struck, on which was the impression of a Pennsylvania Bill of £3, of the emission of 1769.

Upon these facts the following persons (who were only concerned as passers of the money, except Reynolds, who procured some types for Ford) to wit, Benjamin Cooper, Esq; Doctor Bern Budd, Samuel Haynes and David Reynolds, were indicted and plead guilty to their several indictments, and on the nineteenth they received sentence of death, to be executed the 17th of September next. Few scenes ever were more truly affecting than the one in the court-house, at the time of sentence passing.

— These four persons are remarkably handsome fine looking men, three of them about thirty, the other 40, they are all married and have children. All are descendants from the first families in the province, and all have parents living, and numerous relations — the attendance of their relations and friends added much to the solemnity of it, so much that it is better conceived than described — among a thousand people there was scarce a dry eye. The spectators were more sensible affected for those unhappy persons, as it appeared they had been drawn into it by the art, cunning and perswasion of that VILLAIN FORD.

These were all the persons apprehended for capital crimes, except justice Ayres, whose crime was committed in Sussex county, it appeared he had not been in the practice for some time past, and if any judgement can be formed of his repentance, by his conduct and carriage, it was sincere before he was suspected, as his life had lately been so exemplary, that the congregation to which he belonged had promoted him to the rank of deacon, and the parson was so fully convinced of his innocence, that on the Sunday after his committment he PRAYED for his protection from *false accusers*, and the Sunday following a report prevailed that he was released, when the Parson returned thanks for it; but alas! before the next Sunday certain accounts were received that he had confessed his crime.

During these enquiries, sufficient evidence appeared to convince every one present, that Ford was one of the Persons that robbed the Treasury of this Province some years since, both, from his own confession to one of the convicts, who declared it on oath, as also from many other circumstance.

From this account of Ford, the Public must view him in the light of the most accomplished *Villain*, that this country ever produced, and it is hoped it will stimulate every well-wisher to the community throughout the continent, to be watchfull for, and active in apprehending him, especially when they have the promise of 500 l. from the Governor of Pennsylvania, for convicting the Person who counterfeited the Currency of that Province, and of his being the man, against whom there is the fullest Proof. — It is supposed he is gone to the Ohio, and intends going down to the mouth of the Mississippi, Richardson has also made his escape.

The Grand Jury in a polite Address, thanked the Court and Attorney General for the great Pains they had taken, in aiding them in their discoveries, and in a very particular manner gave their thanks; and those

of the County to some Persons, whose activity had laid a foundation for detecting and breaking up this nest of public robbers.

You should have had this at large with the answer to it, but too much of your Paper would be taken up thereby, for one subject to ingross.

Thus Sir, I have given you a brief account of the facts that appeared to the Court, so far as they relate to the Paper Currency²⁶

The pursuit of Ford occupied considerable space in the newspapers for some time. On September 9, 1773, *Rivington's New-York Gazetteer* reported: "By a letter from New-Jersey, dated the 6th instant, we have certain intelligence that Ford the money-maker, was a few days past on the West branch of the Susquehanna, where a number of persons, from all quarters are gone in pursuit of him, so that the much injured public may now expect this most dangerous man will be apprehended, and exemplarily punished, a circumstance most ardently wished, as it may possibly lead to an extension of mercy in favour of several persons who have been unhappily, through his immediate means brought into the most shocking and desperate circumstances."

New light on the affair was shed by the following account published a week later in the same newspaper:

On the 3d instant a further and very strict search was made for printing materials (concealed by Ford, the money maker) in the swamp where the press was found,²⁷ when, after much diligence exerted, a set of plates for printing the currencies of Maryland, Pennsylvania, New-Jersey, and New-York, with a quantity of types and other utensils for carrying on the counterfeiting bills of each province, were discovered and secured. In the course of his flight he put off some Jersey bills of his own manufacture amongst the Indians, who being afterwards apprized that they were counterfeited, very chearfully joined in the pursuit of this most pernicious artist.

²⁶ *Rivington's New-York Gazetteer*, Sept. 9, 1773, p. 2 and *Supplement to the Massachusetts Gazette*, Sept. 30, 1773.

²⁷ The press and plates were examined by Thomas Powell and Isaac Collins, the printer for the province. Collins was of the opinion that no more than one bill at a time could be printed on the press, though he thought he could print four bills on one piece of paper on it (see *Votes and Proceedings of the New Jersey Assembly*, 1175 pp. 206-207).

Eventually Sheriff Kinney located in the woods near the place where Ford's printing utensils had been found thirty-six counterfeit Pennsylvania thirty shilling bills and part of a three pound bill, all supposed to be Ford's work. Kinney sent them to the governor, who on February 8, 1775, laid the bills before the Provincial Council. That body ordered that they be committed to the care of the deputy secretary to be kept with the types and counterfeiting implements discovered in 1773 and already committed to his care.²⁸ Apparently at a much later time Sheriff Robertson, who purchased Ford's house, in making some repairs found counterfeiters' tools hidden in the walls.²⁹

On September 13, 1773, *Rivington's New-York Gazetteer* informed its readers of the fugitives: "Positive accounts are received that Ford and King were at Fort Augusta, near Susquehannah, on the 29th of August, he was hovering in a canoe on one of the branches of that river, so he is not very likely to escape.

"We are just now informed that Ford and King were on the 5th instant at a village called Annaquauga, and the chasseurs expected to be up with them the next night."

Despite the rumors concerning the flight of Ford he was all the time at Smultz's Cabin, and news of this seems to have forced Sheriff Kinney to act, for about mid-September, on a Sunday morning, he went with a posse to Rockaway, where he picked up Abraham Kitchell, Ford's brother-in-law as a guide, and proceeded in a leisurely fashion towards Smultz's Cabin. Young James Kitchell, Abraham's son, told one Joseph Herriman what was up, and Herriman, throwing off his coat, ran off along a short cut to the cabin and warned Ford, so that, when the sheriff arrived, it was too late and Ford had decamped. It was rumored that Kinney himself had been involved with Ford and had purposely tarried. It was related that Abraham Kitchell had that Sunday remarked to the sheriff: "You dare not, for your own sake, arrest him."³⁰

²⁸ *New Jersey Archives*, I Ser., XVIII, p. 525.

²⁹ Andrew M. Sherman, *op. cit.*, p. 131.

³⁰ *Ibid.*, pp. 135-136.

The next number of *Rivington's New-York Gazetteer*, on September 23, devoted space to the latest developments:

Last Friday between ten and twelve o'clock, was executed at Morris Town, East-Jersey, David Reynolds, who was convicted of counterfeiting and passing of base money; he died very penitent. Cooper Budd and Haines, condemned with him, are respited to the 15th of October. The public shall shortly be made acquainted with many interesting and authentic particulars relative to this dangerous confederacy. The last accounts of Ford, the most heinous of this destructive community, are, that he was seen asleep under a tree, guarded by King, and another man well armed; they take their rest alternately in this manner. Ford is reduced by a fever, joined to a complication of the most loathsome distempers, which prevent his travelling now any more than five miles a day, and as there are some very determined people engaged in the pursuit, it is expected he is ere now either found dead or taken alive.

The reason for the respiting of Cooper, Budd and Haines is probably found in this extract from a letter from Perth Amboy, dated September 15 and printed in the *New-York Journal; or, the General Advertiser* of September 23, 1773: "The Wives and Relations of most of the unhappy Money Makers, now under Sentence of Death, are here with the Governor, in Order to solicit him for a Reprieve. So many unhappy People wandering about the Streets, is really an affecting sight."

The *New-York Gazette; and the Weekly Mercury* of September 27, 1773, thus recounted the execution of Reynolds in the presence of an estimated 15,000 spectators,³¹ and the respiting of the others:

On Friday the 17th Instant at Morris Town in East New Jersey, was executed, David Reynolds, a Native of Ireland, about 32 years of age, for counterfeiting the money Bills of Credit of that Colony. He arrived there about ten Years ago, and chiefly followed the farming business till getting acquainted with one Rosecrans³² (executed some time ago for the like Crime, but without declaring his Accomplices) he was by him led into the

³¹ *The Pennsylvania Journal; and The Weekly Advertiser*, Sept. 22, 1773.

³² On Rosecrans' career of counterfeiting which terminated with his execution see above pp. 98–99, 102, 109–110.

Scheme of making and passing counterfeit Money; after the Execution of Rosecrans, Reynolds accidentally met with Capt. Richardson (of Philadelphia, who is fled) and getting acquainted with each other's Characters, was by him introduced to Ford, Haynes, Cooper, Budd, King, and the rest of the Gang. Ford the Principal, termed by the Rest, the Treasurer of the three Provinces, had counterfeited the Money Bills of New-York, New Jersey, and Pennsylvania, in so Masterly a manner as not to be distinguished from the true Bills without the nicest Inspection, and also several of the Gold and Silver Coins current in the British Colonies; and in passing these, Reynolds and the Rest of the Accomplices continued, till Ford and King were apprehended and imprisoned in Morris County Gaol, from whence they soon after made their escape, as mentioned in the Papers. One of the Gang being convicted of aiding them in their Escape and other high Misdemeanors, to mitigate his Punishment, made some Confessions tending to the Discovery of the Rest, which alarmed another, who made an ample confession of the whole, in Consequence of which Reynolds, Haynes, Cooper, and Budd, were tried, confessed their Guilt, and were condemned to be hanged. Their Execution was ordered to be on the 17th Instant; before the Time, Budd and Haynes were respited for a Month, but Reynolds and Cooper were ordered to prepare for Execution at the Time appointed. A few Minutes before the Time, Cooper confessed himself privy to the Robbery of the Treasury at Amboy, and that he received Three Hundred Pounds of the Money; on which he also was respited till he should make further Discoveries. Reynolds was therefore ordered for Execution alone...

Cooper confessed that he was privy to the robbery of the Treasury at Amboy, and received 300 l. of the Money, that it was concerted by Ford and perpetrated by him and three Soldiers then quartered there; that the plan was, first to attempt to carry off the Iron Chest, if that fail'd, next to take the Key from Mr. Skinner's Bedroom, and to kill him or any Person who should discover them; and that if afterwards any of them should be suspected and convicted, they were to turn King's Evidence and accuse Mr. Skinner as being the only Accomplice with them. When some of them were shocked at this Proposal as thereby an innocent Person might lose his Life; Ford replied, *no, damn him, he will only be condemned, he has Friends enough to save him from the Gallows*. That after breaking into the Treasury's Office adjoining to his Bed Room, they attempted to carry off

the Chest, but finding it difficult, set it down again, and breaking open a Desk in the Room, in hopes to find Money, they therein found an old Key to the Money Chest, which was rusty and thought unfit for Use (the Key then used being in Mr. Skinner's Bed Room) with this old Key, they opened the Iron Chest, and thereby the Lives that would been exposed by their Search for the other Key, were probably preserv'd. The Governor and Council of New Jersey, are to meet in a few Days, when further Particulars relating to this Matter will be known.³³

At a meeting of the Provincial Council of New Jersey on September 27, 1773, it was reported that Ford, King, Richardson and Thomas Budd had proceeded towards the Ohio "with an Intention of going to the Mississippi and according to Haynes's Confession were to wait for him at New Orleans till after Christmass next." Governor Franklin proposed on the basis of this information that trusty persons be sent to the Governor of West Florida and New Orleans to seize Ford and his friends on their arrival, and the Treasurer of the Eastern Division offered to advance the funds necessary for the travelling expences of the men dispatched. The council at this time suggested that the governor endeavor to have the Pennsylvania authorities assist by sending along to West Florida some persons from Pennsylvania.³⁴ At this same time, moreover, there was a rumor that Ford had embarked at Barnagat for St. Kitts and thence intended to go to St. Eustatia.³⁵

Word of Richardson reached New York, and then Boston, through a gentleman who came from Philadelphia. This person stated that it was currently reported in the latter city that Richardson was taken in Virginia, where he had been pursued by three men. It was said that he had killed two of them and made a pass with a sword at the third, who, with his hand parried the blow and took away the weapon.³⁶ With regard to the other fugitives and Richardson, the following

³³ See also *The Massachusetts Gazette; and the Boston Weekly News-Letter*, Oct. 7, 1773, p. 2.

³⁴ *New Jersey Archives*, I Ser., XVIII, pp. 361-362.

³⁵ *Ibid.*, XXIX, p. 42.

³⁶ *The Massachusetts Gazette; and the Boston Weekly News-Letter*, Sept. 30, 1773, p. 2.

report was published in *Rivington's New-York Gazetteer* of September 30: "The principal pursuer of Ford and King, Mr. Scott who, on account of his particular attachment to one of the present unfortunate persons at Morristown, was extremely interested in taking the first of these men, is returned without being able to come up with them, the persons he had chased in expectation of their proving to be those he went after were two Indian traders, all that he could learn from these was, that Richardson of Philadelphia and Thomas Budd joined Ford and King a little beyond Juniata, from whence they all sat [*sic*!] out together, well armed for the Mississippi, so that there remain very little hopes of their being secured."

An item dated New York, October 4, which appeared in the *Massachusetts Gazette*; and the *Boston Weekly News-Letter* of October 14, assured the public that Reynolds was not a native of Ireland, as had been stated, but was born in Pennsylvania, where his parents were still living. It also discounted a report current in some parts of New Jersey that Ford, Budd and King had escaped on a vessel bound to the West Indies and stated the following reason therefore: "The counterfeit specie lately put off by them amongst the Indians, on Susquehannah, is an incontestible proof of their flight towards the Ohio, as they are exactly described to the pursuers by the very Indians who had received the bills in payment from them."

Ten days later *Rivington's New-York Gazetteer* informed the public of the latest aspects of the pursuit: "The pursuit of Ford and King was continued until it was found that they were certainly making for the Ohio; the party not prepared for proceeding to so great a distance, desisted, after having dispatched a man down to that river, who was to follow them to the city of New-Orleans; from this person no accounts have been yet received. But we are assured some hopes are still to be entertained of apprehending them, as Colonel Guy Johnson, on hearing of their escape, some time ago, dispatched a Mohawk Indian, one of the best runners of that nation, with exact descriptions and proper instructions to follow them down the Ohio. In quest of these fugitives there have not been discovered the least

traces of either Richardson or Budd, as has been reported, they are supposed to have taken another route."³⁷ The *New-York Journal; or, the General Advertiser*, on the same day, October 14, revealed that there was new incentive to apprehend Richardson and Ford, as the Lieutenant Governor of Pennsylvania on October 4 had proclaimed a reward of £300 for the capture of each man. Richardson was described in a proclamation issued by Governor Dunmore of Virginia and published in Rind's *Virginia Gazette* of September 9 as "about 43 years old, above 6 feet high, very stout, active, and resolute, of a fair complexion, very light brown hair, and well dressed... smooth of speech and sensible."

On December 13 it was reported in the press that Governor Franklin of New Jersey had pardoned Haines, Budd and Cooper,³⁸ but the desire of the authorities to lay hands on Ford and the others who had escaped was as great as ever. An item, dated Baltimore, November 13, and printed in the *Massachusetts Gazette; and the Boston Weekly News-Letter* of December 16, was concerned with Richardson. It read as follows:

A letter from Lancaster county to a gentleman in this town says, "The famous Richardson, who has long been in a fair, or rather foul way of making money, after taking leave of his wife and family, who lived in the Great Valley, lodged, the night before he took flight towards the Ohio, at Mr. M. . . . s; during his stay there, which was about nine hours, he discovered symptoms of a mind rather warily than fearfully agitated, and seemed resolutely fixed to defend the most desperate attack on his person. He was well armed, as was also a man that attended him, who, soon as day dawned, took his station before the house, watching narrowly every person who passed, until they departed. On Richardson's going off, being asked if he was not afraid of being taken, he replied, no; damn me! A man whose pockets are lined with money, and his heart with courage, has nothing to fear but God; and before I am heard of again in Pennsylvania. I shall be out of the reach of pursuit.'"

³⁷ See also the *New-York Gazette; and the Weekly Mercury*, Oct. 18, 1773, p. 3.

³⁸ The *New-York Gazette; and the Weekly Mercury*, Dec. 13, 1773, p. 3 and the *New-York Journal; or, the General Advertiser*, Dec. 16, 1773, p. 3.

Governor Franklin of New Jersey, in the light of the recent events, on November 12, 1773, addressed the General Assembly of the province with these words:

A Discovery was made some time in the beginning of the last summer of a number of persons in the counties of Middlesex and Monmouth, concerned in making a base kind of Half Johannes, and Spanish Dollars, which happily led to the discovery of another gang of villains in the counties of Morris and Sussex, who had for several years past been employed in counterfeiting and passing the paper currency of this and the neighbouring colonies. From the confessions of some of them, corroborated by many striking circumstances, the affair of the robbery of the treasury, which had remained so long enveloped in darkness, has likewise been brought to light. Unluckily some of each gang have made their escape out of the province; but all of the former who were apprehended, and one of the chief of the latter have received that punishment for their crimes which the law would permit; three others, who were sentenced to death, have been respited, for very particular reasons, as you will see by the papers I shall order to be laid before you. No endeavours have been, or shall be wanting on my part, to have those who escaped, apprehended and brought to justice.

As the Mischief in which these persons were engaged is of such extensive and pernicious a nature, I cannot but congratulate you upon the stop which has been put to its further progress: Nor can I doubt but you will think with me, that the thanks and grateful acknowledgements of the public are due to those Gentlemen who have with great zeal and abilities, and with considerable trouble and expence, been the means of detecting and apprehending the authors of it.

On this occasion I think it proper to recommend to you the passing of a Law to make it a felony to counterfeit in this province the silver and gold coin of foreign countries. Many of them have now so general a circulation here, that the mischiefs resulting from their being counterfeited may be as destructive as the counterfeiting of our own paper currency.³⁹

³⁹ *Rivington's New-York Gazetteer*, Dec. 16, 1773, p. 1 and the *New-York Journal; or, the General Advertiser*, Dec. 16, 1773, p. 1. The governor added: "In all Probability, if Government had been empowered to hire a Number of active Men to have gone off immediately in different Parties, in Pursuit of these Delinquents, they would ere now have received the Punishment due to their Crimes."

Five days later Governor Franklin followed his speech with a proclamation offering a reward of £300 for the apprehension of Ford, a like sum for the capture of Richardson, and of £50 for the taking of John King. *Rivington's New-York Gazetteer* of December 16, 1773, which carried the proclamation, pointed out that the total of rewards for the three counterfeiterers was £750 for Ford, £600 for Richardson and £75 for King. The newspaper added that it was suspected that Ford would use the alias of Samuel Samson and King that of John Horton.

The same newspaper on January 20, 1774, was still hopeful that Ford and King would be taken. "The pursuit of Ford and King the money-makers," wrote its printer, "has, ever since their escape from justice, been unremitted; and though it has not hitherto proved successful, yet there still remains great encouragement to expect they will be taken, -- an event that must reconcile every one to the pardon which has been lately vouchsafed to the three persons set at liberty from confinement at Morris Town; and it is hoped a few weeks will enable us to pronounce these adventurers to be in safe custody."

It turned out that Ford had left many creditors behind him, and the Inferior Court of Common Pleas of Morris County on or before October 30 appointed Samuel Tuthill and Jonathan Styles of Morristown and Thomas Millidge of Hanover to adjust and to settle the demands of his creditors.⁴⁰ Sheriff Kinney sold off Ford's farm and all his property, "even to a tin cup containing milk for the babe."⁴¹ Ford's wife, in spite of his previous conduct and the straits in which she found herself, was for a time intensely loyal to her absconded husband. When James Kinsey, an attorney and member of the House, examined the evidence adduced against Ford in connection with the robbery of the East Jersey Treasury, declared it unreliable, and persuaded the majority of the House that such was the case, Grace Ford's joy knew no bounds. On January 15, 1774, she sent Kinsey a letter of thanks in which she expressed her gratitude for his having

⁴⁰ *New Jersey Archives*, I Ser., XXIX, pp. 85-86.

⁴¹ Andrew M. Sherman, *op. cit.*, p. 138.

"lightened the load of ills, with which one of the unhappy sons of adversity has been unjustly depressed." She also urged him to undertake what she considered the lighter task of "acquitting" her "injured husband also from the charge of counterfeiting the paper currencies."⁴² There may, indeed, have been reasonable doubt about Ford's having shared in the robbery of the treasury, and the issue is beclouded by the fact that the issue was a political one,⁴³ but there can be no doubts as to Ford's activities as a counterfeiter.

Ford, who apparently vanished from the scene completely, went neither to New Orleans nor the West Indies. He removed to Green Brier County, Virginia, now in West Virginia, where he assumed his mother's name of Baldwin and settled down. Together with a partner he engaged in the business of silversmith, and, during a severe illness, from which he did not expect to recover, he told his partner's wife of his real name and his evil past. Ford was, however, restored to health, and, when his partner later died, the partner's wife married Ford, although she knew full well that he already had a wife in New Jersey, Grace Kitchell Ford, who, indeed, lived on until 1818, when she died at the age of 77.⁴⁴

News of Ford's whereabouts in time must have drifted back to Morristown, and his eldest son, William, accompanied by a friend, Stephen Halsey, paid a visit to Ford in Virginia, where they found him living with a new wife and the children she had borne him. To them Ford vehemently denied any guilt in connection with the robbery of the treasury but expressed repentance for his general bad conduct. William Ford and Halsey reported that they found him "a most melancholy man."⁴⁵

Richardson for all his bravado, was eventually captured and confined in the Lancaster County jail. On June 19, 1777, he was given

⁴² *Ibid.*, XXIX, pp. 222-224.

⁴³ *Ibid.*, XXIX, pp. 258-263 and 276-282.

⁴⁴ Andrew M. Sherman, *op. cit.*, pp. 136-137, and *History of the First Presbyterian Church, Morristown, New Jersey*, Part II, p. 77.

⁴⁵ Joseph F. Tuttle, *op. cit.*, p. 32.

permission to secure bail and in the spring of 1780 was discharged from confinement on condition that he leave Pennsylvania and never return without permission.⁴⁶ Richardson could probably thank the Revolution, with its confusion and change of authorities, for the fact that he escaped death on the gallows.

⁴⁶ Harrold E. Gillingham, *Counterfeiting in Colonial Pennsylvania*, pp. 42–44.

IX

THE YEARS 1770-1776

In 1763 Joseph Billings had been in Reading jail for counterfeiting, and it was reported that he had had to leave New England for the like crime, had been whipped out of a regiment at Pittsburg for coining dollars, and had been imprisoned in Maryland for similar wickedness. Herman Rosencrans and Billings were acquainted as early as 1762, when, as Rosencrans claimed, he had sold a horse to Billings and received counterfeit bills for it.¹ When, in December, 1769, Rosencrans was again in the clutches of the law, it appeared that he and Billings had been accomplices. On January 15, 1770, Lieutenant Governor John Penn issued the following proclamation:

Whereas I have received Information from the Chief Justice, that a certain JOSEPH BILLINGS stands charged, before him, with feloniously forging and counterfeiting the Bills of Credit of this Province, and passing the same, to the great Injury and Deceit of his Majesty's Liege Subjects. AND WHEREAS the Endeavours hitherto used for apprehending the said *Billings* have been ineffectual; and it is highly expedient, for the Discouragement of such pernicious and villainous Crimes, that the said *Joseph Billings* should be brought to exemplary Punishment: I HAVE THEREFORE thought fit, with the Advice of the Council, to issue this my Proclamation, hereby promising and engaging to pay the public Reward of FIFTY POUNDS, to any Person, or Persons, who shall discover, apprehend, and secure the said *Joseph Billings*, so that he be prosecuted to Conviction. — — — — *His Person is very remarkable, being 6 Feet 5 Inches high, long necked, and raw boned; he is about 50 Years of Age, and a Silver-smith, or Watch-maker, by Trade, but often passes by the Name of Doctor Billings. He has formerly been committed to several Prisons, in this and the neighbouring Provinces, for Practices of the same kind.* AND I DO hereby strictly charge and enjoin all Judges, Justices, Sheriffs, Constables, Officers Civil and Military, and all other his Majesty's faithful and Liege

¹ See above Ch. VII

Subjects, within this Government, to make diligent Search and Enquiry after the said *Joseph Billings*, and to use all possible Means to apprehend and secure him, in one of the public Gaols of this Province, that he may be proceeded against according to Law.²

In March news reached Philadelphia by way of Carlisle that "the notorious Billings (the principal Person concerned in counterfeiting the Three Pound Bills of this Province) was lately taken up, with another Man, after a long and obstinate Resistance, at Winchester, and committed to the Gaol of that Place."³ Nothing more is known of Billings or of the man taken with him. The report of their capture may have been false, they may have escaped, or, if they were tried and punished, no report of the matter has been preserved.

Maryland eight dollar bills, dated January 1, 1767, and badly cut on copperplate, were circulating in May, 1770, and the public was warned against accepting them. Neither the arms nor the ornaments were as plain as in the true money, the letters were very irregular, and the forged bills might readily be detected with a little inspection.⁴

At the end of October, 1770, one Josiah Pitt was indicted at the Court of Quarter Sessions of York County for altering a two shilling Pennsylvania bill of credit to ten shillings and for passing the altered note. He pleaded not guilty, was prosecuted by Attorney General Andrew Allen, was tried and convicted. His sentence was that he

...stand in the Pillory in York Town on the twenty ninth Day of November next between the hours of ten and twelve in the forenoon for one hour. That then he shall have both his Ears cut off and that they be nailed to the said Pillory. That the said Josiah Pitt shall then be whipped at the publick whipping Post in the said Town with thirty nine Lashes on his bare back well laid on. That the said Josiah Pitt pay a fine of one hundred Pounds of lawful Money of Pennsylvania the one half to the Governor of this Province for the support of Government and the other half to Patrick

² *The Pennsylvania Gazette*, Jan. 18, 1770, p. 3.

³ *Ibid.*, March 29, 1770, p. 3.

⁴ *Ibid.*, May 3, 1770, p. 3; *The Pennsylvania Chronicle, and Universal Advertiser*, May 7, 1770, p. 3.

McSherry the Discoverer that he pay the Costs of this prosecution, and as the said Josiah Pitt hath no Lands or Tenements, Goods or Chattels to satisfy for the said one hundred Pounds that he be and is hereby adjudged to be sold for the term of four years to make satisfaction for the said fine of one hundred Pounds and that he be committed until the Judgment is complied with.⁵

A warning was printed in *The Pennsylvania Gazette* of November 29, 1770, that counterfeit half Johannes, dated 1746 and made of base metal thinly gilded over, were circulating. They were somewhat broader, thicker and lighter than the true ones. If they were compared with the genuine coins, they might readily be detected, since the letters of the counterfeits were not so regular nor the workmanship so well executed.

A few days later a notice was printed in Philadelphia that counterfeit English guineas were passing in the city. They were made of old English shillings, gilded over, they appeared fresh and new but were easily discovered by their being considerably under weight.⁶

The only recorded counterfeiting in Pennsylvania in 1771 was of eighteen penny bills of the Bettering-house money, dated March 10, 1769, which were issued for the aid of the managers of the almshouse in Philadelphia and appeared in August. The bills might be easily detected and were cut on copperplate. The letters were very irregular, and the paper was somewhat whiter and smoother than that of the genuine money. The whole was badly executed.⁷

A dispatch from New York, dated February 3, 1772, was published in *The Pennsylvania Gazette* ten days later. It noted the appearance of counterfeit New Jersey three pound bills, dated December 31, 1763, and signed Smith, Johnston and Skinner. "They are," ran the notice, "well executed, but the Coat of Arms and Bordering appear more plain in them than in the true Ones: The Words, *New-Jersey, Three Pounds*, on the Margin of the Sun, is very visible and plain in

⁵ Ms. General Quarter Sessions Docket No. 10, 1769-1775, York County, pp. 78-79.

⁶ *The Pennsylvania Chronicle, and Universal Advertiser*, Dec. 3, 1770, p. 3.

⁷ *The Pennsylvania Gazette*, Aug. 22, 1771, p. 3; *The Pennsylvania Chronicle, and Universal Advertiser*, Aug. 26, 1771, p. 3.

the Counterfeits, and scarcely to be observed in the true Ones; the Coat of Arms is very remarkable in the Plainness of the Supporters. -- In the Word THREE in the Counterfeits, under the Sun, the two EE's are shorter than the Rest of the Word. --- In the true Bills, on the right Hand Border, are two remarkable black Spots, near the upper and lower End, which are wanting in the Counterfeits: The Signers Names are wrote well, and rather better than the true Ones."⁸

The same month, February, 1772, false milled dollars, dated 1770 and made of base metal, were circulating. They were supposed to be cast and apparently rather well done. When compared with genuine ones, the counterfeits looked darker, felt smoother and were nearly five pennyweight too light.⁹

At the Court of Quarter Sessions of York County held the last week in April, 1772, one David Robinson was indicted for passing one ninth of a dollar of Maryland currency altered in its denomination to six dollars. He pleaded not guilty but was tried, convicted and given the comparatively light sentence of paying a fine of £10 to the governor and costs of prosecution and suffering three months of imprisonment.¹⁰

It seems likely that Robinson was one of a gang or at least the accomplice of some other counterfeiter, for altered Maryland bills continued to appear. *The Pennsylvania Chronicle, and Universal Advertiser* of June 15, 1772, printed this notice: "Within a few Days past several Persons in this City have been greatly imposed on in receiving MARYLAND PAPER MONEY BILLS, many of which are altered by some Villain or Villains, from a small to a higher Value; Circumspection is therefore necessary. --- Some of the Bills are altered from *One Dollar* to *Six*, and others from *Two-ninths of a Dollar*, to *Four Dollars*."¹¹

On July 2 the public was cautioned against counterfeit New Jersey

⁸ Cf. Kenneth Scott, *Counterfeiting in Colonial New York*, p. 144 and Pl. X.

⁹ *The Pennsylvania Gazette*, Feb. 20, 1772, p. 3.

¹⁰ Ms. General Quarter Sessions Docket No. 10, 1769-1775, York County, pp. 172-173.

¹¹ The same item is found in *The Pennsylvania Journal*, June 20, 1772.

thirty shilling bills dated April 16, 1764, and signed John Johnston, Rich^d Smith, and S. Smith, but so unlike the signing in the true bills as to be easily detected. The impression was of a remarkably blackish appearance, the word *New-Jersey* on the left border was much plainer, as also the flourishing on the top and right edge, and very different from the true bills. They bore the printer's signature, G, but it was possible that some might carry another signature, especially after this warning.¹²

The same month other forged bills, twenty shilling Pennsylvania notes, dated May 1, 1760, appeared in Philadelphia. They were badly cut on copperplate and might be easily distinguished, since the paper looked whiter and smoother than that of the true money.¹³

Two other types of counterfeited Pennsylvania bills were mentioned in *The Pennsylvania Gazette* of August 19, 1772: one variety was of ten shilling notes, dated April 3, 1772, which were easy to detect, as there were no true ones of that date printed; the other counterfeits were two shilling bills altered to ten. These were well done but the fraud could easily be discovered, since the form of the two shilling bill was very different from that of any ten shilling bills of Pennsylvania. The same newspaper on September 9 warned that counterfeit eighteen penny bills of the Bettering-house money had appeared; they were done from a copperplate and could readily be detected, as the letters were very irregularly cut and did not look as clear as those made with common printing types. At the same time people were cautioned to beware of one shilling Pennsylvania bills altered to ten by the pasting of the word *Ten* over *One*, but so badly done that they might easily be recognized. It is likely that one of those concerned in altering the bills was John Underwood, who at a Mayor's Court held in Philadelphia at the end of October, 1772, was convicted of counterfeiting and passing counterfeit money of Philadelphia and

¹² *The Pennsylvania Gazette*, July 2, 1772, p. 2; *The Pennsylvania Journal*, July 2, 1772; *The Pennsylvania Chronicle*, July 6, 1772, p. 3.

¹³ *The Pennsylvania Chronicle*, July 20, 1772, p. 2; *The Pennsylvania Journal*, July 23, 1772.

sentenced to be whipped, to stand in the pillory, and to have both ears cut off and nailed to the post.¹⁴ The nature of the sentence shows that his crime was altering money and passing it.

Early in June forged Maryland dollar bills, dated March 1, 1770 and badly cut on copperplate, were passing. The letters on the face and back stood very irregular, and the bills on the whole were so poorly executed that one acquainted with printing letters could scarcely be deceived by them.¹⁵ The persons concerned in passing them may have been the individuals referred to in the following item in *The Pennsylvania Chronicle, and Universal Advertiser* of Monday, June 21, 1773: "Last Tuesday was committed to our Gaol, two Men taken up at Potts-Grove, for attempting to utter a counterfeit Maryland Eight Dollar Bill, and on searching, there were found on them eighty of those Bills." The same account was printed by *The Pennsylvania Gazette* of June 23, 1773, which, however, added:

These Men were but just arrived from Ireland, and since their Commitment, their Chests were searched on board the Ship that brought them, when 874 more of the same Bills were found therein.

The above Counterfeits are dated March 1, 1770; the Face of the Bill is done with Printing Types, but the Arms and Ornaments are badly engraved on Copperplate, and the Words, Anno Domini, in Old English Print, are larger in the Counterfeit than in the true Bills; the Paper is thinner, and the Backs are so ill engraved, that they might easily be detected, should any have been passed by them before they were taken up.

One of these two men, Kelly by name, died early in July of a fever in the Philadelphia jail, and by the middle of the month his associate was so desperately ill that his death also was expected,¹⁶ and it is probable that he escaped death on the gallows in the same manner as Kelly had done.

Aside from the activities of Samuel Ford and his accomplices,

¹⁴ *The Pennsylvania Gazette*, Nov. 4, 1772, p. 3.

¹⁵ *Ibid.*, June 9, 1773, p. 3.

¹⁶ *The New-York Journal*, July 22, 1773, p. 2; *The Massachusetts Gazette, and the Boston Weekly News-Letter*, July 29, 1773, p. 2. The dispatch printed in both papers was from Philadelphia and was dated July 14.

which are discussed in a separate chapter, the only further case of counterfeiting in 1773 was that of Thomas Collen, who was indicted at a Court of Quarter Sessions of Philadelphia County in September for "forging & counterfeiting 8 Dollars Bills." He was tried, found not guilty and discharged on payment of the costs of prosecution.¹⁷

The activities of the Ford Gang and a particularly successful forging of the currency of Virginia contributed to the enactment of new legislation in Pennsylvania. At the end of September a law was passed setting the death penalty without benefit of clergy for anyone convicted of counterfeiting or passing paper money so counterfeited of any British colony in America. The penalty for altering or passing altered currency of any British colony in America was the following: to stand in the pillory, to have both ears cut off and nailed to the pillory, to receive thirty-nine lashes, to pay a fine of £100, one half to the governor and one half to the informer, to pay double damages to the person injured and to pay the costs of prosecution. If the culprit did not have the means to pay the monetary penalties, he or she might be sold for a term up to seven years to satisfy such payments.¹⁸ And on November 6, 1773, the Assembly of New Castle, Kent and Sussex passed and sent up to the governor, who enacted it into law, a similar act "to prevent the Counterfeiting the Paper Money of other Colonies."¹⁹

Early in 1774 counterfeit one shilling bills of the Bettering-house money, dated March 10, 1769, and done with printing types, appeared. The letters were not clear and looked blacker and the impression was stronger than was the case with the true bills. The paper of the forged notes was thinner and seemed of a dingy bluish color, while the ornaments on each side were somewhat different from the genuine ones.²⁰ During the first week in March several persons were committed

¹⁷ Ms. Minutes of the Court of Quarter Sessions of Philadelphia, Sept. 6, 1773.

¹⁸ *Colonial Records of Pennsylvania*, X, pp. 98-99 and Mitchell and Flanders, *op. cit.*, pp. 339-340.

¹⁹ *Colonial Records of Pennsylvania*, X, p. 109; *Laws of the State of Delaware* (New-Castle: Samuel and John Adams, 1797) I, p. 529.

²⁰ *The Pennsylvania Gazette*, Feb. 9, 1774, p. 3.

to the Philadelphia jail on suspicion of counterfeiting and passing one shilling bills and ninepenny and threepenny tickets of the Bettering-house money, a considerable amount of which false currency was found upon them.²¹ Possibly one of these persons was Bernard Repton, who at a Court of Oyer and Terminer in Philadelphia in April, 1774, was sentenced to be executed on April 30.²²

According to a dispatch from Philadelphia dated March 14 and printed in *The Maryland Gazette* of March 24, 1774, counterfeit Maryland dollar bills were circulating in Philadelphia. They were dated March 1, 1770, were badly cut on copperplate, and were printed on a paper which was much smoother and thinner than that used for the genuine bills.

The execution of Repton did not restrain others, for in October, 1774, false twenty shilling Pennsylvania bills, dated March 20, 1771, were found in circulation. They were printed from copperplate, looked much blacker than the genuine bills, and might easily be detected.²³

A Philadelphia dispatch dated January 9 and published in *The Maryland Gazette* of January 19, 1775, warned that counterfeit eight dollar Maryland bills, dated April 10, 1774, were passing in Philadelphia. They looked much blacker than the genuine bills and were altogether so badly done that they might be easily detected.

Likewise the fifty shilling Pennsylvania bills, dated October 1, 1773, were counterfeited and put into circulation by early March, 1775. The false bills were done with common printing types; the word *Pennsilvania* in the true money was made *Pennsylvania* in the counterfeits; the arms and ornaments were badly done; the denomination of the bill in red and black letters at the top could not be distinguished as in the true bills, where it was fair and clear; the back was badly imitated; the sun appeared larger and the rainbow smaller, while the paper was whiter and softer than that of the genuine money.²⁴

²¹ *Ibid.*, March 9, 1774, p. 3.

²² *Colonial Records of Pennsylvania*, X, p. 172.

²³ *The Pennsylvania Gazette*, Oct. 5, 1774, p. 3.

²⁴ *Ibid.*, March 8, 1775, p. 3.

The counterfeiters of these fifty shilling bills, and perhaps also of the twenty shilling ones, were Andrew Stewart and John McAllister. They were tried and convicted at a Court of Oyer and Terminer held in Philadelphia on April 10, 1775, before Chief Justice Benjamin Chew, and Associate Justices Thomas Willing and John Morton. Their records were laid before the Provincial Council on Thursday, May 18, and, since the judges had reported to the governor no circumstances favorable to either prisoner, it was decided by the council that both should be executed on Saturday, June 3.²⁵

Both, however, escaped from jail, McAllister the first. He broke out of the public jail of Philadelphia County, and on May 27 Lieutenant Governor John Penn issued a proclamation offering a reward of £200 for his capture and delivery to the Sheriff of Philadelphia County. McAllister was described as "a young man, about eighteen or nineteen years of age, five feet eight or nine inches high, round shouldered, bow legged, a little pitted with the small pox," who wore his own hair. He had been found guilty of uttering and passing counterfeit bills of credit of Pennsylvania, knowing them to be such.²⁶

Within about ten days, McAllister's accomplice, Andrew Stewart, under sentence of death "for Counterfeiting and uttering Fifty Shilling Bills of the Province of Pennsylvania," had also made his escape from the jail, and in *The Pennsylvania Gazette* of June 7, 1775, Sheriff William Dewes had a notice printed offering a reward of £250 for his capture.

Shortly before the outbreak of the Revolution a plan to counterfeit Maryland and Pennsylvania bills was hatched abroad. *The Virginia Gazette* (Pinkney) of June 1, 1775, printed on its first page the copy of a letter signed Britannophilus and sent from Germany to John Wilkes, Lord Mayor of London. The mayor had given a copy of it to Arthur Lee, who, apparently, on March 22, 1775, sent it off from London to America. It read in part:

²⁵ *Colonial Records of Pennsylvania*, X, p. 256.

²⁶ *Ibid.*, X, pp. 257-258; *The Pennsylvania Gazette*, May 31, 1775, p. 3.

I live in a great city in Germany. Some weeks ago a printer came to me, and shewed me two bank notes [i.e. bills of credit] (not knowing the language, nor the contents) which two foreigners brought to him, to re-print them exactly: I found the one to be a bank note of *Annapolis*, in Maryland, and the other of *Pennsylvania*, of 50 and of 5 shillings, both of 1774. I was surprized, and told the printer he should not at all meddle with the rascals who brought these papers. Afterwards I heard that they have been at two engravers, to get two others counterfeited, and they refused likewise. But as I do not doubt they will find out, in another town, some ignorant or hungry engraver, or printer, I beg your lordship to communicate these contents of my letter to the public, in the *London Chronicle*, to prevent any mischief and imposition on the honest Americans, vexed not only by taxes, but also by bad bank notes. It will give me great pleasure to read in this paper my notice, to frustrate the designs of these impostors.

On Monday, January 1, 1776, Zachariah Smith Allen, a cordwainer, was detected in New York City passing counterfeit three pound Pennsylvania bills of the emission of March, 1769, signed with the names of Richard Smith, John Johnson and Stephen Skinner. An indictment was filed against him on January 19, 1776, for having, on December 28, 1775, in the East Ward of New York passed a false three pound Pennsylvania bill to William Thorn, and the witnesses against him were Thorn, Charles Brannon and John King. The same day a second indictment was filed against him in the Supreme Court of New York for having, on December 26, 1775, in the North Ward of the city, passed a false three pound Pennsylvania bill to Margaret, the wife of James Gordon, and in this case the witnesses were Margaret Gordon and Charles Brannon (or Brennon). Allen was arraigned on January 19, 1776, and pleaded not guilty, but there is no record of his having been tried. After his arrest a search of his lodgings revealed thirty-two £3 bills of Pennsylvania and about £70 worth of goods, which he had presumably purchased with his counterfeits.²⁷

²⁷ *The Maryland Gazette*, Jan. 11, 1776, p. 1 and Kenneth Scott, *Counterfeiting in Colonial New York*, pp. 191-192.

X

THE THREE LOWER COUNTIES ON DELAWARE

Because of geographical location and a common governor, New Castle, Kent and Sussex had close ties with Pennsylvania. As a result, most of the cases of counterfeiting connected with the three lower counties were reported in the Philadelphia or Germantown newspapers and steps were frequently taken by the Pennsylvania authorities to apprehend the guilty parties. In the earlier chapters of this book many incidents concerned with New Castle, Kent and Sussex have been discussed: in 1724 William Sinton, jailed in New Castle for forging the paper currency, broke out and escaped; Governor Patrick Gordon in 1727 first discovered at New Castle the counterfeiting of Wallace and Willson; it was upon information supplied by a person in New Castle that a coiner, Zachariah Field, in 1730 was pursued by a hue and cry from the lower counties and was taken and punished; in 1734 Conway and Sherwin, who had been passing counterfeit ten, twenty, and probably also fifteen shilling New Castle bills, were discovered by Richard Grafton, who went from New Castle to Salem, New Jersey, for that purpose,¹ and were tried and convicted in New Castle; one Whitesides in 1738 brought in from Ireland more than a thousand twenty shilling New Castle bills, was arrested, jailed in New Castle and tried and convicted there; in 1740 Robert Jenkins was taken to New Castle for trial for having the currency of the three counties forged in England, and it is probable that he and his cousin, Peter Long, were both convicted; Jacob Ebberman of Germantown in 1742 was jailed in Philadelphia for altering New Castle currency but escaped from prison; in the following year counterfeit twenty shilling New Castle bills were in circula-

¹ *Minutes of the House of Assembly of New Castle, Kent and Sussex held at New Castle 1739* (The Public Archives Commission of Delaware, 1939), p. 11. The House on April 12, 1739, voted Grafton the sum of £3/10/- for his expences in going to Salem.

tion, and bills of the same denomination were counterfeited again in 1748; in 1753 and again in 1756 the ten shilling New Castle bills were forged, and in 1761 two shilling New Castle bills altered to ten shillings made their appearance.²

Unfortunately the court records of New Castle County are only partially preserved and those which have survived yield no information on cases of counterfeiting, though coiners and counterfeiters certainly came before the courts in New Castle, as is shown by the incidents mentioned above and by the following item printed in the *Maryland Gazette* of October 25, 1749: "We hear that a Man is in Gaol at *Newcastle*, for counterfeiting some of the Bills of Credit of this Province; and that the Plate, and some unsigned Bills, were found upon him: But they are so very ill done, and so unlike the true Bills, that the Fraud may be easily discovered."

The court records of the other two counties, however, contribute somewhat to our knowledge of colonial counterfeiting. At the May, 1745, term of the Court of Quarter Sessions of Sussex County, Garret Condon was presented for uttering false and counterfeit money. It was ordered that the presentment "be put in Bill of form and process to issue." The case was continued to the August and November sessions. Condon was released on bail, for at the February, 1746, term of the court "John Worthington the Surety in this Case brings in the body of the s^d Garret." The prisoner was then committed to jail and the court ruled that he be allowed three shillings a week until his trial, which was to be continued to the Court of Oyer and Terminer.³

The Grand Jury at the August, 1755, term of the Court of Quarter Sessions of Kent County, presented two men for passing Pennsylvania currency supposed to be counterfeit. One of them, Isaac Gray, was committed for want of security. The other, William Smith, provided

² These items may be found above Ch. II, 5, 8; III, 1, 5, 6, 7; IV; V, 1, 2, 15; VI, 8, 12; VII, 2.

³ Ms. Sussex County Quarter Sessions Docket Nov. 1744-Aug. 1746, May, Aug. and Nov. terms, 1745, and Feb. term, 1746. These manuscript minutes, as all those subsequently cited in this chapter, are in the Hall of Records, Dover, Delaware.

bail, himself in the amount of £500 and three others, Benony and William Watson and Richard Smith, each in the amount of £250. Smith's case was continued from term to term until the May, 1756, sessions. When, at that time, no person appeared to prosecute him, he was discharged by proclamation on payment of fees. Gray, however, remained in jail, and his case was continued until at the August, 1756, term it was recorded in the minutes that he "Broke Gaol & Run away."⁴

At the May, 1764, term of the Court of Quarter Sessions of Kent County James Wells, Jr., was indicted for uttering one false dollar. A subpoena was issued for Thomas Murphy, a blacksmith, and Stephen Davis to appear to testify against him at the August sessions of the court. Wells pleaded not guilty and was released on bail, himself in the amount of £500 and Henry Wells in the like amount. In August the case was continued and Wells was again released on bail, himself in the amount of £500 and Daniel Wright Newnan (or Newman) in the like amount. Murphy and Davis each were required to furnish bail in the amount of £50 for their appearance to testify. The case was continued to November, when bail for Wells' appearance was provided by Murphy and Newnan. In February, 1765, the case was again continued, and Wells was committed to the sheriff for want of bail. Henceforth the case was continued from term to term until in May, 1769, it disappeared from the court docket.⁵

⁴ Ms. Minutes Kent County Quarter Sessions of the Peace 1755 Aug.-1756 Nov., old # 62-1, Aug. and Nov. terms, 1755, Feb., May and Aug. terms, 1756; Ms. Minutes Kent County Quarter Sessions, old # 63-1, Feb. 1753-1756 Feb., Aug. and Nov. terms, 1755, and May 1756-1759 Feb., May and Aug. terms, 1756.

⁵ Ms. Kent County Quarter Sessions Docket, 1762 Feb.-1764 Nov., May, Aug. Nov. terms, 1764; Ms. Minutes Kent County Quarter Sessions, 1763-1765 Feb., old # 68-1, May, Aug., Nov. terms, 1764; Ms. Kent County Quarter Sessions Docket, 1765 Feb.-1766 Nov., Feb., May, Aug., Nov. terms, 1766; Ms. Kent County General Sessions Docket, 1765 May-1766 Aug., May, Aug. Nov. terms, 1765, and Feb., May, Aug. terms, 1766; Ms. Minutes Kent County Quarter Sessions, 1766 Nov.-1768 Aug., Feb., May, Aug., Nov. terms, 1767, and Feb., May terms, 1768; Ms. Minutes Kent County Quarter Sessions, 1767 Feb.-1770 May, May, Aug., Nov. terms, 1767, Feb., June, Aug., Nov. terms, 1768, and May term, 1769.

One Philip McGaugy was twice indicted at the May, 1767, term of the Court of Quarter Sessions of Kent County, on each count for passing a counterfeit dollar. A subpoena was issued for Fenwick Fisher, Esq., Richard Lee and Alexander Munroe to testify for the King at the next sessions. The prisoner pleaded not guilty, and George Read prosecuted for the King. At the August term McGaugy changed his plea on each count to guilty; on the first count he was fined £5, required to pay fees and to give security for his good behavior for twelve months; on the second count he was sentenced to pay £5 and costs.⁶

At the same time that McGaugy was indicted, in May, 1767, one Barnet (or Barnett) Ripton was presented by the Grand Jury at the Court of Quarter Sessions of Kent County for counterfeiting and passing dollars. Fisher, Lee and Munroe also were the witnesses against him. Ripton pleaded not guilty. At the August, 1767, term of the court he was tried, convicted and sentenced to stand one hour in the pillory, to receive thirty-nine lashes on the bare back, and to provide security in the amount of £50 for his good behavior for twelve months.⁷ His sentence was doubtless so much severer than that of McGaugy because Ripton did not admit his guilt and also because he both counterfeited and passed the coin. It seems not at all unlikely that Barnet Ripton was the "Bernard Repton" who was convicted of counterfeiting at a Court of Oyer and Terminer in Philadelphia in April, 1774, and executed at the end of that month.⁸

In November, 1769, an indictment of one William Morgan for uttering counterfeit dollars was returned Ignoramus by the jury at the Court of Quarter Sessions of Kent County, and the defendant was discharged on payment of fees.⁹

⁶ Ms. Minutes Kent County Quarter Sessions, 1766–Nov.–1768 Aug., May term, 1767. Ms. Minutes Kent County Quarter Sessions, 1767 Feb.–1770 May, May and Aug. terms, 1767.

⁷ Ms. Minutes Kent County Quarter Sessions, 1766 Nov.–1768 Aug., May term, 1767, and Ms. Minutes Kent County Quarter Sessions, 1767 Feb.–1770 May, May and Aug. terms, 1767.

⁸ See above Ch. IX, p. 7.

⁹ Ms. Minutes Kent County Quarter Sessions, 1767 Feb.–1770 May, Nov. term, 1769.

As has been already mentioned,¹⁰ the assembly of the Three Lower Counties passed an act fixing the pillory and a fine of £100 for the counterfeiting of its bills of credit. In keeping with the general trend in the other colonies the penalties became more severe. An act of 1759 appointed the penalty of death without benefit of clergy for those convicted of counterfeiting or passing counterfeited bills of the Three Lower Counties. The informer was to receive £50 from the property of the convicted criminal but, if the person convicted was insolvent, the trustees of the Loan Office were then to pay the informer £20. It was also provided that an individual convicted of altering the bills of the Three Lower Counties or of passing them when altered was to stand in the pillory, to have both ears nailed to the pillory and cropped, to receive thirty-one lashes on the bare back, to pay a fine of £100, one half to go to the informer and one half to the government, and to pay double damages to the person grieved, as well as all costs and charges of prosecution. If the convict had no property, he might be sold for any term up to seven years to furnish satisfaction. The trustees of the Loan Office were to pay £10 to the informer against an insolvent offender. The false bills were to be delivered to any of the trustees of the Loan Office, used as evidence at the trial, and then destroyed by the trustees in the presence of a committee of the assembly.¹¹

An act for emitting £30,000 in bills of credit, passed on September 2, 1775, provided the same penalties as those contained in the act of 1759, with, however, two minor exceptions: the sums to be paid by the trustees to an informer against an insolvent offender were cut in half.¹²

In 1758 Maryland had passed a law making it penal to counterfeit

and Ms. Kent County Quarter Sessions Docket, 1768 Nov.—1772 Aug., Nov. term, 1769.

¹⁰ See above p. 41.

¹¹ *Laws of the Government of New-Castle, Kent and Sussex Upon Delaware* (Wilmington: James Adams, 1763) II, pp. 35–36; *Laws of the State of Delaware* (New-Castle: Samuel and John Adams, 1797) I, pp. 367–368.

¹² *Laws of the State of Delaware*, I, pp. 585–586.

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bills of certain provinces, including the currency of the Three Lower Counties on Delaware, or to pass the same knowing them to be false.¹³ The Three Lower Counties in 1773, in accord with suggestions made by Virginia, passed an act making it penal to counterfeit the paper money of the other British colonies.¹⁴

¹³ *Maryland Gazette*, May 18, 1758, p. 3.

¹⁴ *Laws of the State of Delaware*, I, p. 529.

XI

CONCLUSION

The amount of money counterfeited during the Colonial Period can never be precisely ascertained. In many instances the sums forged have not been recorded, and, of course, only when false currency was detected, was any notice taken of it. From certain cases mentioned in this book, however, an idea of the considerable volume of counterfeits may be obtained.

In the Seventeenth Century only coin was in use, and it is stated that on one occasion Charles Pickering had twenty-four pounds of silver mixed with base metal to be coined into bits. John Rush was said to have sworn that he spent half his time in making false Spanish money, and towards the close of the century the great quantity of lead and pewter farthings and half pence in circulation induced some fifty-three citizens of Philadelphia to petition the general assembly to suppress the counterfeits.

David Wallace, it is known, imported £1,000 in false New Jersey bills from Ireland; one Eanon, who died during the crossing from Ireland to America, had 118 New Jersey counterfeit bills in his chest; in the chest of an associate, William Scot, 582 false 18^d bills were found, and another partner, Anthony Adamson, was said to have had a large quantity of the same. A coiner, Zachariah Field, had on his person false pistoles, pieces of eight and Lion dollars, while 101 false dollars were discovered in his saddle bags. A certain Grindal, it was charged, imported 600 twenty shilling bills from Ireland. Robert Conway and an associate named Sherwin were said to have brought in £5,000 in forged bills and to have passed about £700 of them before they were seized, while bills to the amount of £1,668/15/- were taken from Conway and burnt. William Bodie imported £700 in half crown bills; in the possession of one Whitesides 1,029 New Castle bills were found; Peter Long passed off nearly £6,000 in counterfeits without

being detected, and in the chest of his cousin, Robert Jenkins, 971 forged twenty shilling bills were discovered; a man turned over to the authorities by Tom Bell had £17 in bogus currency on his person; in the pocketbook of John Bellamy were found four false pistoles, a counterfeit New York five shilling bill and £80 in forged Rhode Island currency; Lummis and Bradford, seized in New Jersey, had about them 102 fifteen shilling bills, 142 twelve shilling bills and 89 six shilling bills; Heinrich Jaeger admitted that he had made £40 in counterfeit money; Germantown coiners apparently put into circulation a vast number of false doubloons and dollars; Sigismund Hainly confessed that he had imported £20 in counterfeit paper; Daniel Jeffron, when taken up, had on him about 1,000 false Maryland ten shilling bills, which Governor Sharpe of that province referred to as "a vast quantity"; John Davis, when arrested, was in possession of £3,500 in counterfeits; Herman Rosencrans had on his person when apprehended 68 bills of £3 each; Samuel Ford, Jr., was so prolific and successful in his counterfeiting that his associates called him the treasurer of the three provinces; one Kelly and another Irishman had on them when taken into custody 80 False Maryland eight dollar bills, and in their chests were found 874 more bills, all brought in from Ireland; in the lodgings of Zachariah Smith Allen in New York were discovered 32 forged bills of £3 each and £70 worth of goods, presumably purchased with counterfeits.

The above items, incomplete as they must of necessity be, show the serious nature of the attempts to counterfeit the money of the colonies and the evil effects on the credit of the provincial paper currency. Lieutenant Governor Gordon in 1727 compared counterfeiting with poisoning the waters of a country and declared that it "would effectually overthrow all Credit, Commerce and Traffick, and the mutual Confidence that must subsist in Society, to enable the Members of it to procure to themselves and Families their necessary Bread," and David Lloyd, Speaker of the House, spoke of it as a "detestable Crime." Lieutenant Governor Thomas, in advocating severer legislation against counterfeiting, stated: "Few

things require more the Attention of a Government than the Money current in it; for upon the real value of that depends all confidence in Trade, Forreign and Domestick. Yours has been so frequently counterfeited of late, that there is reason to apprehend the Security of your Laws has given encouragement to it." Later, Governor Belcher of New Jersey, reporting to the council and assembly of that province the activity of a band of counterfeiters, remarked: "And this Matter well deserves your speedy Care and strict Enquiry, as it strikes at the very Vitals of your Currency, and so must nearly affect not only your Commerce, but your other Estates also." The importance of checking counterfeiting was also stressed by Lieutenant Governor Richard Penn when he wrote in 1773 in a proclamation: "It is of the greatest Importance to the Trade and Commerce of this Province, that the Credit of all such bills as have been emitted by Law, should be supported and preserved, and that Forgers and Counterfeiters of them should be discovered, and brought to condign and exemplary Punishment."

The greatest suffering from counterfeit money was on the part of the poor and ignorant. This fact was well known and was, for example, pointed out in the *Pensylvanische Berichte* by Christopher Sauer, who wrote that it was impossible to make a perfect copy of a bill, since the printer of the genuine currency "has . . . secret signs of which another person does not think. The poor man accepts the counterfeit and cannot keep it long; whoever has doubts about it then goes to the printer. The printer knows his own work, and thus the matter becomes apparent. It is shameful for one to try to support himself in this fashion, for usually the poor or the stupid or simple people have to suffer from it if they want to buy something or pay their debts when those who understand it do not take the money from them or when they make a cross through it."

Coin was, as a rule, counterfeited in the provinces, and, in the course of time, so was the paper currency to a greater and greater extent; a very large amount of paper money, however, was imported from England, Holland, Germany, and above all from Ireland. This

may be readily understood, for suitable paper and capable printers and engravers were easily found in Europe. Jenkins, Long, Bodie and Davis, for example, had bills made in England. Daniel Jeffron secured his counterfeits in Amsterdam. Sigismund Hainly had false half crown and nine penny bills made in Germany; the New Castle counterfeit money circulating in 1753 was thought to be imported from Germany; in 1775 two "foreigners" were reported to be trying to have Maryland and Pennsylvania currency printed in Germany.

Lieutenant Governor Gordon in 1727 stated: "... the design has been laid to pour in upon us a Flood of our Own Bills Counterfeited from *Ireland*, where they have so artfully imitated most of those of Jersey, that it requires more skill to distinguish them, than is to be expected amongst the common, and especially amongst Country people." And Ireland was indeed the source of the counterfeits imported by Wallace, Eanon, Scot, Adamson, Grindal, Conway, Whitesides, probably Samuel Ford, and Kelly. Christopher Sauer, writing in 1747, remarked: "Sometimes before false paper money has been made in England or Ireland and brought into this country and invariably has been discovered at once." But Sauer was much too optimistic about the situation, as is shown by the fact that Peter Long had successfully passed away nearly £6,000 in forged bills brought from England. With regard to the two emissions of 1723 and supplements in 1725-1726 it has been stated that counterfeiting of them was so successfully practised, that "within four years after their first emission it was found necessary to call in the whole, as it was not possible to discern between the good and bad notes."¹

Often the occupation of a counterfeiter is not known, but sometimes it is recorded. Because of their technical knowledge a number of silversmiths are found among the counterfeiters: Charles Picker-

¹ Henry Phillips, Jr., *An Historical Sketch of the Paper Money Issued by Pennsylvanians* (Philadelphia: A. C. Kline, 1862), p. 11. He adds that to remedy the counterfeiting of the Pennsylvania emission of 1726 it was ordered that there be imprinted the figure of a crown on the bills of five shillings, of two crowns on those of ten shillings, of three crowns on those of fifteen shillings and of four crowns on those of twenty shillings.

ing, Edward Hunt, Andrew Clark, Gideon Casey, John Bruleman, Samuel Ford, Jr., at least after he settled in Virginia using the alias of Baldwin, and Joseph Billings, who, like Ford, had also learned engraving and printing. Likewise persons skilled in working with metals are fairly numerous among the counterfeiters: blacksmiths such as Richard Thomson, Stephen Barnes, John Lummis, and Benjamin Gilbert; Zachariah Field is described as understanding in metal work; John Jones was a smelter; Benjamin Cooper had been a partner of Ford in the iron business; Heinrich Jaeger, a printer, apparently became involved in crime because of his trade.

Other counterfeiters or passers came from various walks of life: Robert Fenton was a servant, and a skilled metal worker; John Jay, Thomas James and Zachariah Smith Allen were cordwainers; Hercules Roney and William Kerr were weavers; Anthony Adamson was a ship captain, and Ichabod Higgins and probably also Robert Jenkins were sailors; Robert Duncan, Matthew Berry and Dennis Connell were described as yeomen; Rice Price was a slaughterer; Thomas Carr was a laborer; Archilaus Lewis was a tavernkeeper; Richard Cooley was a perukemaker; Bern Budd was a doctor; John King had been undersheriff of Morris County; Squire Ayres was a justice of the peace and deacon; six women were concerned in counterfeiting: Martha Hunt, the wife of Edward Hunt, Rebecca Johns, Margaret Thomas, Susannah Buckler, Ann Tew and Alice Richards.

A remarkable number of counterfeiters broke jail or fled from justice, an indication of their resourcefulness and of the insecurity of the jails of the time: William Sinton, John Jones, Joseph Watt, Isaac Gray, Joseph Bradford, Ichabod Higgins, John Hannah, Samuel Ford, Jr., Grindal, Andrew Stewart, and John McAllister were successful in breaking out of jail; Jacob Ebberman fled from the officer who was taking him to prison, as did Joseph Richardson; John Nicholas and Henry Bosworth forfeited their bail and fled; Thomas James, William James, and John Gilkey, Jr., took to their heels and could not be found when wanted by the court.

In the seventeenth century an amazing difference is found in the punishment meted out to counterfeiters: Pickering, Buckley and Fenton were convicted of counterfeiting and circulating Spanish coin -- they claimed that their mint was not in Pennsylvania -- and Pickering, found guilty of a high misdemeanor, had to make satisfaction to the persons injured, pay a fine of £40 and give security for good behavior; Buckley was fined £10 and required to furnish security for good behavior; Fenton was sentenced to sit in the stocks for one hour. Lasy, who confessed that he had counterfeited Spanish money and passed it, was sentenced to stand at the public place of correction in Chester on two different court days for three hours each day, to bear affixed on his breast a paper with his crimes written in capital letters, and to pay costs.

Only two years later, however, Charles Butler, convicted only of passing false Spanish coin, was charged with misprision of treason and sentenced to have his entire estate confiscated and to be imprisoned for life. To be sure, the council of the province recommended mercy in his case and he was probably pardoned.

In 1720 Edward Hunt, who had counterfeited Spanish coin, was convicted of high treason and executed, while his wife, Martha, who was convicted of passing her husband's counterfeits, was fined £500 and sentenced to imprisonment for life.

When the first Pennsylvania paper bills were emitted, it was provided that counterfeiting or passing should be punished by pillorying, cropping of both ears and whipping with thirty-one lashes. In addition a person convicted was to pay a fine of £100, costs, double damages to the person grieved, and, if insolvent, might be sold for a term up to seven years to make satisfaction.

A law passed in 1739 made counterfeiting the Pennsylvania bills, within or without the province, or knowingly passing such counterfeits, punishable by death without benefit of clergy, while altering or passing altered Pennsylvania bills was punishable by pillorying, flogging with thirty-one lashes, cropping of both ears, and paying a fine of £100, costs, and double damages to the person grieved.

In 1767 Pennsylvania provided the death penalty for counterfeiting any gold or silver coin current in the province. A person convicted of knowingly passing such false coin was to stand one hour in the pillory, have both ears cropped, and pay a fine of £100 and costs and charges of prosecution.

In 1773 an act was passed imposing the penalty of death without benefit of clergy on any person convicted of counterfeiting the paper currency of any British colony in America or of passing it when so counterfeited. For altering or passing altered currency of any such colony the penalty was pillorying, cropping of both ears, flogging with thirty-nine lashes, paying double damages to the person grieved, a fine of £100 and all costs. The same year the assembly of New Castle, Kent and Sussex passed a similar act.

The Three Lower Counties on Delaware set as the earliest penalties for counterfeiting their paper currency or for passing it when so counterfeited the pillory and a fine of £100. An act of 1759, however, made such offences punishable by death without benefit of clergy, while a person convicted of altering their bills or of knowingly passing them when altered was to stand in the pillory, have both ears cropped, receive thirty-one lashes, pay a fine of £100, all costs and double damages to the person grieved.

Persons executed for counterfeiting in Pennsylvania were Edward Hunt, Sigismund Hainly, Sr., Herman Rosencrans and Bernard Repton. Three others were condemned to death, Sigismund Hainly, Jr., Andrew Stewart and John McAllister, of whom Hainly was pardoned and the other two broke jail and fled.

The legislation mentioned above in general guided the courts in the eighteenth century. There was, however, considerable variation in the severity of the sentences meted out. As a rule there was a combination of punishments inflicted. Persons punished with the pillory, cropping of both ears, and thirty-one lashes appear to have been Richard Kinner, John Hawkins, Lawrence Wolverston, Joseph Watt, Cornelius Walraven and Ann Tew. Some of these also incurred fines and other financial penalties. Others who stood in the pillory in

Pennsylvania or the Three Lower Counties were Samuel Jackson, Hercules Roney, James Huston, William Kerr, Daniel Jeffron, John Underwood, Barnet Ripton, John and Benjamin Eastburn, John Anderson, Josiah Pitt, Anthony Adamson, William Scot, Robert Teas, Robert Black, Robert Conway and his partner, Sherwin, Whitesides, James Williamson, John Thomas Jones, Stephen Barnes and Francis Huff.

Individuals flogged were Roney, Huff, John and Benjamin Eastburn, and Anderson, each with twenty-one lashes; Kerr, Ripton, Tew and Teas, each with thirty-nine lashes; Robert Black with twenty lashes; Matthew Berry and Dennis Connell each with eight lashes on one indictment and seven on another; other persons flogged -- the number of lashes is not stated -- were Müller, Durry, Blayster, Jeffron, Conway and Sherwin.

Kerr, Jeffron, Hannah and Rosencrans each had one ear cropped; Robert Black, Walraven, Conway, Sherwin and Underwood were also cropped, but it is not recorded whether one or both ears were cut off.

Imprisonment was frequently imposed as a penalty in the eighteenth century, for example, on George Perkins, Samuel Jackson (four months), Christopher Marshall (two months), Jacob Greator (one month), David Robinson (three months), Joseph Richardson, Alice Richards (six months), John Thomas Jones (six months) and Stephen Barnes (six months).

Sometimes all property was confiscated, as apparently in the case of George Perkins. Fines were often imposed: £100 in the cases of Ann Tew, Josiah Pitt, Robert Teas, Conway, Sherwin and Whitesides; £50 in the cases of Christopher Marshall, William Kerr, Gideon Casey and Samuel Jackson; £40 in the cases of some convicted coiners; £30 in the case of James Huston; £25 in the cases of John and Benjamin Eastburn; £20 in the cases of certain coiners; £15 in the case of William Shremer (later £10 of this was remitted); £10 in the cases of David Robinson and of certain coiners of gold; £5 in the cases of Jacob Greator, Philip McGaugy, and some coiners of silver.

In some instances those convicted were required to furnish security for their good behavior, sometimes for twelve months, as Samuel Jackson, Christopher Marshall, John Eastburn, Philip McGaugy, Barnet Ripton and John Anderson, or for six months, as John Thomas Jones and Stephen Barnes.

When bills were emitted, it was left to the discretion of a committee to select such devices as would render counterfeiting difficult. As Christopher Sauer pointed out, it was impossible for paper currency to be imitated in such a way that the printer of the genuine bills could not recognize the counterfeits. It was difficult for the criminals to copy accurately the signatures of the signers, and still harder to match the ink and paper. In fact, the paper was a special obstacle for the counterfeiter, and this was particularly true in the case of the paper which came to be used by Pennsylvania and which was white on one side and gray on the other.

In some instances, as in the case of Ford and his associates, well-organized gangs were in operation and were in contact with other similar groups. The formation of counterfeiting gangs was a growing tendency in the later years of the colonial period, and during the Revolution counterfeiters operated on a vast scale both for profit and to injure the credit of the patriot money.

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